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Creating tomorrow, together:
consulting on our methodology for PR24

Appendix 8 – Outcome delivery incentives

Ofwat

About this document

This appendix sets out further details of our draft methodology proposals for outcome delivery incentives (ODIs) at the 2024 price review (PR24), as summarised in Chapter 5 ('Delivering outcomes for customers') of the PR24 draft methodology consultation document.

We set out how we have responded to the comments from stakeholders relating to previous consultations, including the Future Ideas Lab, as well as those received through the Outcomes Working Group.

This appendix focuses on our proposed approaches to:

- setting standard incentive rates;
- setting enhanced incentives;
- the size of incentives for the measures of experience performance commitments;
- assessing and managing risks;
- incentivising outcomes beyond PR24; and
- implementing payments during the 2025-30 period.

We include consultation questions relating to this policy area in the PR24 draft methodology consultation document.

Contents

1. Introduction

Outcome delivery incentives (ODIs) aim to align the interests of companies and their investors with those of customers. We first introduced ODIs at the 2014 price review (PR14) and developed them further at the 2019 price review (PR19).

ODIs are the financial consequences to companies of underperformance or outperformance relative to their performance commitment levels (PCLs). They act as an incentive for companies to deliver their committed levels of performance, returning funding to customers for foregone benefits if they deliver less than is expected. Companies that go beyond and deliver greater benefits than expected to customers and the environment can receive outperformance payments.

We published a discussion document in February 2022 on ODIs at PR24. We received responses from 17 water companies as well as from CCW, the Environment Agency, Natural Resources Wales, and Market Operator Services Limited, which we published on our website.

We have also discussed a range of issues relating to ODIs through the outcomes working group, with slides and meeting notes published on our website. As part of our policy development, we have considered relevant submissions from stakeholders to the Future Ideas Lab, responses to our November 2021 consultation on performance commitments at future price reviews and our May 2021 consultation on PR24.

2. Standard incentive rates

In this section we set out our proposed approach to setting standard incentive rates (as opposed to enhanced incentive rates, discussed in section 3).

We start by considering our **overall approach** and then discuss the considerations we will take into account for setting the final incentive rates.

We then consider the following policy issues in more detail:

- **estimating marginal benefits**;
- **incentivising asset health performance**; and
- our **approach to bespoke ODIs**.

2.1 Overall approach

2.1.1 Our February 2022 discussion document

We set out two broad options to setting incentive rates at PR24:

- **bottom-up approaches**, set at the level of each performance commitment, primarily based on estimates of customer benefits, or potentially using cost estimates where necessary; and
- a **top-down allocation approach**, where incentive rates are derived from a company's overall potential payments, for example as a proportion of a company's regulatory capital value (RCV) divided over a selected performance range, and informed by customers' priorities and regulatory judgement.

2.1.2 Stakeholders' views

We received a range of responses, with some respondents preferring a mixture of approaches for different circumstances. Eight respondents explicitly support using a bottom-up approach with incentive rates that reflect customer preferences, particularly for customer-facing and environmental performance commitments. Respondents raise the following concerns with using a top-down approach:

- CCW, Thames Water and United Utilities suggest that it would not reflect differences in customer preferences and could incentivise companies to behave in ways that do not align with customer valuations or impacts;

- Affinity Water, Portsmouth Water, SES Water and Thames Water say that the different sizes of regulatory capital value (RCV) by company would cause disproportionate impacts on customers' bills;
- CCW and Thames Water discuss challenges with determining an appropriate performance increment, which could lead to distorted incentives on companies; and
- Affinity Water suggests that any differences in incentives and risk between water and wastewater services would be compounded.

However, eight respondents support using a top-down approach in specific circumstances:

- four companies propose this where willingness to pay or marginal cost estimates cannot be relied on, such as for asset health-related performance commitments; and
- seven companies suggest using as a cross-check against bottom-up approaches to ensure that the overall ODI package is balanced.

And four respondents also raised concerns with a bottom-up approach:

- South East Water suggests it could lead to an unbalanced set of ODI payments;
- Wessex Water says that a top-down approach would be more appropriate as it can be used to calibrate potential returns to match expectations; and
- Hafren Dyfrdwy and Severn Trent Water observe that it could lead to very high risk for small companies such as Hafren Dyfrdwy.

2.1.3 Our assessment and draft methodology proposals

We consider there are benefits to using a bottom-up approach to setting incentive rates particularly for customer-facing and environmental performance commitments. A bottom-up approach based on marginal benefits aligns the interests of companies with those of their customers and the environment, so that customers as a whole pay or receive ODI payments that broadly reflect the impact from a unit of outperformance or underperformance. This encourages companies to focus on what matters to customers.

Bottom-up approaches also enable us to use marginal cost estimates in incentive rates, where they are reliable and appropriate to use. Using marginal cost estimates within a bottom-up approach should fund the costs of improvements and return funding to customers for under-delivery. But it may be challenging to verify. It could risk incentivising inefficient improvements if marginal costs are materially above marginal benefits. Conversely, if current marginal costs are materially below marginal benefits but are increasing, this could insufficiently incentivise improvements. We could also use marginal cost estimates as a cross-check to marginal benefit estimates, to ensure customers are protected from paying more than they should for performance improvements.

Under a top-down approach, incentive rates may not reflect marginal impacts on customers, and they could vary by company for the same unit of performance due to the relative size of companies' RCVs, rather than customer preferences or other factors. However, they may be appropriate where we do not have good data on marginal costs or marginal benefits.

As suggested by some stakeholders, we can use a top-down approach for assessing the overall risk package for ODIs, and for informing the levels of caps and collars – we discuss this further in section 5.1.

As such, we are **proposing that standard incentive rates are generally set using a bottom-up approach**, which should reflect the impacts on customers and the environment from a change in a unit of performance for each performance commitment. In the following sections we discuss our proposed approaches to setting incentive rates under a bottom-up approach, including the use of marginal benefits and marginal costs.

We discuss our proposed approach to asset health-related performance commitments in section 2.4.

2.2 Setting standard incentive rates

2.2.1 Our February 2022 discussion document

We summarised our PR19 approach to setting incentive rates, which used a bottom-up approach based on a company's marginal benefit estimates. We noted that different formulae were used for outperformance and underperformance rates, with the underperformance rate formula including an adjustment for efficient marginal costs (MC), in addition to marginal benefits (MB) and a company's cost sharing rate (S). In almost all cases, the cost sharing rate was assumed to be 50%.[1]

$$PR19\ outperformance\ rates = MB * S$$

$$PR19\ underperformance\ rates = MB - (MC * S)$$

We noted key challenges and considerations with the PR19 approach, which included:

- **challenges with marginal cost estimates** due to wide variations and the assumption that outcomes performance and expenditure are positively related;

[1] See Ofwat, 'Delivering Water 2020: Our methodology for the PR19 price review. Appendix 2 Delivering outcomes for customers', December 2017, p. 92.

- **reliability of marginal benefit estimates** due to wide variations and issues with eliciting meaningful customer valuations, particularly for asset health-related performance commitments; and
- **concerns over the symmetry of rates**, where there were different outperformance and underperformance rates for most performance commitments.

We proposed to simplify the ODI rate formula as follows, to focus on marginal benefits (MB) with a benefit sharing factor ($X\%$):

$$Standard\ ODI\ rates = MB * X\%$$

We invited views on this approach and relevant considerations for varying the benefit sharing factor, including whether it should differ between outperformance and underperformance rates.

2.2.2 Stakeholders' views

Ten water companies and CCW support simplifying the ODI rate formulae to be a share of marginal benefits.

Six companies say they are concerned with not including marginal costs in the formula, with some expressing concern about losing sight of the link between costs and service. For example, Anglian Water says removing marginal costs would lose valuable information to establish if performance commitment levels are set at the level where marginal costs equal marginal benefits. The company suggests retaining marginal costs reporting to maintain sight of the link between cost and service, as well as a cross-check to incentive rates based on marginal benefits.

Affinity Water proposes an alternative formula to calculate outperformance and underperformance rates, which includes marginal costs.[2] The company also suggests that specifying a benefit sharing factor is not necessarily easier than our PR19 approach.

On the benefit sharing factor, three stakeholders support using a 50% sharing factor for simplicity, whereas two respondents suggest aligning with cost sharing rates. South West Water suggests setting relatively high benefit sharing factors where further improvements are challenging or would provide industry-wide benefits. Yorkshire Water asks for clarity on how companies can influence the benefit sharing factor.

[2] The company proposes $(MB - MC(2S - 1))/2 * MB)$, where S is the cost sharing rate.

In terms of the symmetry of outperformance and underperformance rates:

- Northumbrian Water, Southern Water and United Utilities support symmetrical rates – they suggest this would support simplicity, transparency, and ensure incentive rates are not based on customers' loss aversion biases;
- CCW and Natural Resources Wales say they support asymmetrical outperformance and underperformance rates, which they say may reflect the preferences of customers; and
- SES Water proposes a non-linear formula to account for diminishing marginal returns.

Anglian Water comments that symmetric rates do not create symmetric risks. The company suggests setting higher outperformance rates to balance risk and push companies to aspire to outperform.

Skylight Consulting (commissioned by Anglian Water) proposes increasing the size of incentive rates on overall performance (relative to incentives on spending), longer-term metrics (relative to shorter-term operational metrics) and environmental performance.

2.2.3 Our assessment and draft methodology proposals

We consider there are advantages to **revising the formulae to be based solely on marginal benefits**, which should be more robust at PR24 due to our aim to produce more consistent valuations through the collaborative customer research (see section 2.3). This should also reflect the impacts on customers and the environment from a change in a unit of performance for each performance commitment.

However, we think it is appropriate for it to be based on a **share of marginal benefits** rather than full valuations because of potential interactions with the cost sharing mechanism. If we used 100% of marginal benefits, a company may incur marginal costs to improve its performance. Because customers bear a proportion of incremental costs through the cost sharing mechanism, then they could be charged more than their willingness to pay for the short-term benefits they receive from a performance improvement– from their financial contributions to outperformance payments and cost sharing incentives. In terms of underperformance, using full marginal benefit valuations could overcompensate customers, if they also gain a share of any cost savings associated with underperformance. Inefficient companies could also be incentivised to meet their performance commitment levels by more than the net benefits to customers, particularly as customers bear a share of these costs.

As such, we propose to **set incentive rates based on the following formula**, which would apply to both outperformance and underperformance rates, where MB is an estimate of marginal benefits and $X\%$ is the benefit sharing factor:

$$Standard\ ODI\ rates = MB * X\%$$

This is a change compared to PR19. We consider it appropriate to revise the formulae in this way because it:

- **aligns the interests of companies with customers**, so that customers as a whole pay or receive ODI payments that broadly reflect the impact on them and the environment (the change in net benefits) from a unit of outperformance or underperformance;
- **removes the formulaic dependency on marginal cost estimates**, where we found wide variations in companies' estimates and which we found challenging to assess;
- **simplifies the formulae** compared to PR19 – this increases transparency around what the incentives are trying to achieve, as well as reduces the complexity and challenge for companies and us involved in estimating and assessing marginal costs; and
- **provides greater flexibility to take account of wider considerations**, including whether to set symmetric rates, take account of credible marginal cost estimates, and incentivise strategic priorities.

If we do not have sufficiently reliable estimates of marginal benefits, for example for asset health, we may consider alternative approaches, including top-down approaches.

Calibrating the benefit sharing factor

As we set out above, we consider that setting the benefit sharing factor at 100% is unlikely to incentivise the right outcomes for customers and the environment due to potential interactions with the cost sharing mechanism.

We could set the benefit sharing factor at a consistent level for all companies (such as at 50%, or aligned to a company's cost sharing rates). Alternatively, we could retain flexibility to calibrate the benefit sharing factor.

We propose that our starting point is that **the benefit sharing factor should be greater than a company's cost sharing rates**. For example, if companies' cost sharing rates are up to 60%, as we are proposing for PR24 (see chapter 6 of the draft methodology), we would expect to set benefit sharing factors at 70% for all companies.

This approach should lead to higher levels of service, through stronger incentives on companies to deliver performance improvements. Setting the benefit sharing factor at a higher rate than cost sharing rates could risk encouraging companies to deliver improvements to levels where marginal costs exceed marginal benefits in the short run. This is because companies should be incentivised to improve until their share of marginal costs are greater than or equal to their ODI payments. However, this may not materialise in practice if companies lack management focus on performance or have a poor understanding of their marginal costs. We consider it appropriate to set relatively high benefit sharing factors because it:

- **increases the management focus** of companies on improving their performance;
- **helps to stimulate innovation and stretch**, benefiting customers now and in the long term if it enables higher levels of service in future price reviews;
- **reflects wider environmental and social benefits** from outperformance, including strategic government priorities, which may not necessarily be incorporated in the marginal benefit estimates;
- **provides stronger incentives on companies** to meet their performance commitment levels, which we consider is in line with customers' and other stakeholders' expectations; and
- **results in a greater reduction in customer bills** when companies do underperform, through relatively high underperformance payments, particularly if underperformance is not associated with cost savings so customers do not benefit via the cost sharing mechanism.

We consider there are merits in retaining some flexibility in deciding the final benefit sharing factors for individual performance commitments. We propose to **calibrate final ODI rates during the determinations phase of PR24**. We intend to consider varying the benefit sharing factor for individual performance commitments based on considerations such as:

- the degree of confidence in the estimates of marginal benefits;
- to reflect and incentivise wider benefits or strategic priorities, particularly if they are not reflected in the marginal benefit estimates;
- to protect customers from materially overpaying for improvements, particularly for newer performance commitments – for example if credible marginal cost estimates appear to be well below marginal benefit estimates; and
- to ensure the benefit sharing factor is materially greater than companies' maximum potential cost sharing rates.

While the marginal benefit estimates for individual performance commitments may vary between companies (for example, due to differences in customers' preferences), we generally expect to set a common benefit sharing factor across companies because we do not expect the above considerations to vary between efficient companies. We will take into account views expressed by companies and other stakeholders in our draft determinations.

In all cases, we expect to **cross-check final rates** against potential returns on regulatory equity (RoRE) to ensure there are sufficient and proportionate incentives on companies for each performance commitment in absolute terms and relative to other performance commitments.

Symmetry of payments and rates

We propose that **all performance commitments have financial underperformance and outperformance payments** (except where outperformance is not possible such as for statutory compliance performance commitments or where a bespoke performance commitment is needed to address poor performance in an area).

We consider that **outperformance and underperformance rates should generally be symmetrical**, provided there are clear benefits from outperformance.

This approach reflects that, for most common performance commitments, we consider diminishing marginal benefits are unlikely to arise during the 2025-30 period, either because:

- individual incidents measured by the performance commitment impact different customers across the company's network, so an incremental improvement should provide a constant benefit (such as internal sewer flooding incidents); or
- there is scope for significant improvements, so diminishing marginal returns are unlikely to occur in the short term (such as for some environmental performance commitments).

We consider a non-linear formula, as proposed by SES Water to manage diminishing marginal returns, would not be appropriate for the reasons above, and would add undue complexity.

In addition, we are no longer requiring companies to provide evidence of customer views on whether there should be outperformance payments for common or bespoke performance commitments. Instead, we intend to assess whether there are clear benefits to customers and the environment from outperformance, informed by the collaborative customer research and expert judgement. We consider this is consistent with research that suggests that areas which require technical expertise to understand may be less appropriate for customer research.[3] It also enables us to reflect wider benefits associated with outperformance. This helps to ensure all companies are incentivised to outperform where it is beneficial to do so.

In general, we do not consider it appropriate to set asymmetric rates – either with higher underperformance rates, as suggested by CCW and Natural Resources Wales, or higher outperformance rates, as suggested by Anglian Water. We consider it important to reflect wider benefits from outperformance that may not be reflected in customers' stated preferences for the reasons above. Moreover, this is in line with only engaging customers on meaningful areas of the price review. We do not consider setting standard outperformance rates higher than underperformance rates would necessarily balance the ODI package or provide the right marginal incentives on companies.

For reasons set out in section 2.4, we consider the rationale for symmetrical rates also applies for the asset health-related performance commitments that we are proposing at PR24.

[3] Blue Marble for CCW, 'Engaging water customers for better consumer and business outcomes', May 2020.

We address specific comments raised by stakeholders that are not covered above:

- **Impact on companies' incentives**. Removing the marginal cost element from the underperformance rate formula does not prevent companies from considering the marginal costs of service improvements in their operational decisions. Companies will be obliged to consider their share of marginal benefits via the ODI rate ($MB * X\%$) and their share of marginal costs via the cost sharing mechanism ($MC * S$) and should only undertake improvements when the former outweighs the latter. As we set out above, we may vary the benefit sharing factor to reflect wider objectives and priorities and we would expect companies to respond to these incentives accordingly. As we set out in our December 2021 consultation on base expenditure, and chapter 6 of our draft methodology consultation document, we are intending to set performance commitment levels that align with our cost allowances, rather than attempt to set every performance commitment level at the exact point at which marginal costs equal marginal benefits, which is challenging to achieve.
- **Loss of marginal cost data**. We do not consider that we can verify that marginal cost estimates are sufficiently robust for setting incentive rates. In their responses to our February 2022 discussion document, some companies recognise they have difficulties estimating robust marginal costs. Companies can continue to collect marginal cost data for other purposes. Where credible marginal cost estimates suggest that customers are at risk of overpaying for improvements (for example, they appear substantially below marginal benefit estimates) then we can take this into account when calibrating the benefit sharing factor during the PR24 determinations.

2.3 Estimating marginal benefits

2.3.1 Our February 2022 discussion document

We have been working in partnership with water companies and other stakeholders on collaborative customer research for PR24. This has included research into marginal benefit estimates associated with common performance commitments, to inform incentive rates. Since 2021, we have discussed and tested different approaches, with the aim of a consistent and comparable approach across the sector.

In our February 2022 discussion document, we suggested that the collaborative customer research would be the basis of the marginal benefit estimates in the ODI rate formula for customer-facing and environmental performance commitments. For asset health-related performance commitments, we acknowledged that direct valuations would be challenging to elicit from customers. We considered a range of options, including an 'inferred benefit' approach which would map valuations for customer-facing events with those metrics measured by the performance commitment, as well as using marginal costs or top-down approaches.

2.3.2 Stakeholders' views

Northumbrian Water and United Utilities support using marginal benefit estimates for customer-facing and environmental performance commitments, but not for asset health-related performance commitments.

South East Water says it is concerned with overreliance on marginal benefit estimates.

Dŵr Cymru, Severn Trent Water and Thames Water say they broadly support using the collaborative research as a starting point for marginal benefit estimates. The Chartered Institution of Water and Environmental Management (CIWEM) also supports the idea of collaborative research. Stakeholders make the following comments on the ongoing development of the collaborative customer research:

- Affinity Water, Dŵr Cymru, Northumbrian Water, Southern Water, South West Water, Thames Water and Yorkshire Water state that the proposed research methodology is relatively untested, so its success depends on the robustness of the marginal benefit values – Thames Water suggests independent peer review of the research methodology;
- Anglian Water and South East Water suggest that we retain flexibility at this stage rather than commit to using marginal benefit values from the collaborative customer research;
- Dŵr Cymru, Northumbrian Water and South East Water suggest cross-checking and triangulating the values obtained from the collaborative research with other evidence;
- Affinity Water, Bristol Water, South East Water and South West Water state that the proposed research methodology may reflect customers' loss aversion biases because it is based on compensation values, which could lead to relatively large incentives or a negatively skewed or unsustainable incentive package; and
- Fast Track Squared (commissioned by Severn Trent Water) agrees that the collaborative customer research should give more consistent and potentially robust results but notes there may still be anomalies.

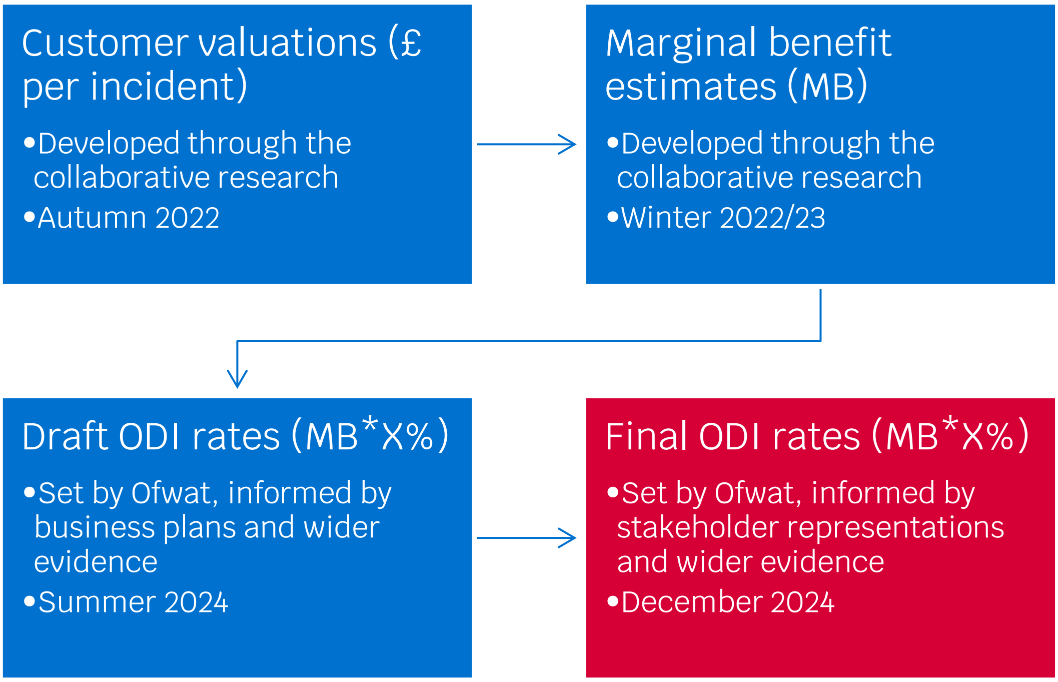
2.3.3 Our assessment and draft methodology proposals

We propose that the **collaborative research is the basis for marginal benefit estimates for almost all common performance commitments**. This is because it enables us to set comparable values across the sector through a consistent approach. It should also be more cost effective than PR19, where companies commissioned individual research projects of varying quality. We set out our detailed approach on our website, including where we have tested different approaches and considered peer reviews and pilot results.

For some performance commitments, establishing marginal benefit estimates that align with final performance commitment definitions is relatively straightforward. Other performance commitments require detailed 'mapping' of the relationships between customer valuations and the final definitions of performance commitments. This could include asset health-related performance commitments, where we are considering using an 'inferred benefits' approach that maps them to customer valuations from the collaborative research (see section 2.4). For biodiversity and operational greenhouse gas emissions, we are proposing to start with external valuations (more details below). For the measures of experience performance commitments, they will be based on relative performance (see section 4 of this document and [Appendix 6 – Performance commitments](#).

As shown in Figure 2.1, we expect to publish initial valuations from the research phase of the collaborative research in autumn 2022 with valuations mapped to common performance commitment definitions to follow in winter 2022/23.

Figure 2.1 – Process and timeline for producing ODI rates for common performance commitments



As part of the mapping exercise within the collaborative customer research, which links customer valuations to performance commitment definitions, we are **considering the extent to which ODI rates can vary between companies**. We expect to set different rates where there are statistically significant differences in customer preferences. There may be other reasons why ODI rates differ between companies, for example due to a company's topography, network configuration or past performance which lead to higher likely impacts on customers from the same change in a unit of performance as measured by the performance commitment. We are **proposing to permit these variations between companies where they do not introduce disproportionate complexity or create**

perverse incentives (for instance, where this leads to weaker incentives on companies that have a history of poor performance or inefficient investments).

For all valuations derived from the collaborative research, we propose to consider credible external valuations that are consistent with our policy approach – including that they reflect impacts on consumers and the environment, and we are able to explain differences in valuations between companies. As we set out above in section 2.1 **we will also take into account a range of considerations when setting the benefit sharing factor for each performance commitment**, including our confidence in the estimates of marginal benefits.

As we set out above, we expect to take an **alternative approach for the biodiversity and operational greenhouse gas emissions performance commitments**. This is because it is unlikely that we will get meaningful customer valuations through the collaborative research. Instead, we propose to take account of credible external valuations – we set out our initial views on how we intend to derive marginal benefits for these two performance commitments in box 2.1.

Box 2.1 – Estimating benefits for the biodiversity and operational greenhouse gas emissions performance commitments

Biodiversity

We expect to use the upcoming biodiversity net gain market, which is due to open in 2023, as a starting point for marginal benefit estimates. We propose to assess this market price against a range of sources, such as the ENCA (Enabling a Natural Capital Approach) Services Databook, which contains existing sources of biodiversity values, such as £20,000 to £25,000 per biodiversity unit as summarised in an evidence review for Defra in 2021.

We could either set a common incentive rate or vary rates by company. Companies are likely to have different types of habitat in their areas, so a common rate may not fully represent these differences. Company-specific rates could be based on an average of habitat-specific benefit values, weighted by either the number of relevant habitats in each company's area, or the type that they expect to develop until the next price review. We would need to balance company-specific rates with the additional complexity.

Operational greenhouse gas emissions

We expect to use the latest external valuations of marginal benefits as our starting point, such as those used by the UK Government for policy appraisals, including the Green Book and related guidance. However, we intend to cross-check this against wider evidence, in line with our overall approach (see section 2.2). In particular, we expect to assess this against the efficient marginal costs revealed by our proposed bidding process for PR24 (see section 5.2.1 of Appendix 9 – Setting expenditure allowances).

As this is a new common performance commitment at PR24 – only four companies had financial incentives at PR19 – there is a risk that marginal costs are significantly below marginal benefits. We want to avoid customers from overpaying if we have clear evidence that marginal costs in the water sector are lower than in the wider economy.

We address specific comments raised by stakeholders that are not covered above:

- **Risk of large or negatively skewed values**. While a research methodology based on customers' willingness to accept may lead to larger values than one based on willingness to pay, we consider a willingness to accept methodology has merits. It reflects the impacts on customers from a deterioration in service – in general, customers should expect no significant disruptions to their service.[4] Nonetheless, if there are significant concerns with the overall size of the valuations, we can vary the benefit sharing factor. Our choice of research methodology should not necessarily be a cause of asymmetry in the incentive package, because we intend to set symmetrical outperformance and underperformance rates (ie, the same share of marginal benefit estimates).

2.4 Incentivising asset health performance

2.4.1 Our February 2022 discussion document

We recognised that the existence of customer-facing performance commitments, and our commitment to maintaining them over time, should incentivise companies to maintain their asset health to avoid underperformance payments in future periods. However, we said we were concerned companies do not put sufficient weight on the long-term consequences of poor asset health and so we directly incentivise them through asset health-related performance commitments.

We set out the following options for setting incentive rates for asset health-related performance commitments:

- **direct customer valuations** – where customers are asked to directly value improvements through customer research;

[4] Accent and PJM Economics, 'Outcome delivery incentive research: Design of methodology – Stage 1 report', January 2022.

- **inferred marginal benefits** – by allocating valuations of relevant customer-facing incidents to the metrics measured by asset health-related performance commitments;
- **marginal costs** – where incentive rates are set as a share of the marginal costs of improvements or deteriorations in performance; and
- **top-down approaches** – starting with the total money at stake (usually in terms of a certain return on regulatory equity), payments are divided by a selected range of performance to derive a unit rate.

We invited views on which approach we should take at PR24. We observed that diminishing marginal benefits may apply for asset health-related performance commitments and suggested that we could set asymmetric rates or limit outperformance payments to protect customers.

2.4.2 Stakeholders' views

Stakeholders provide the following comments on the overall approach to incentivising asset health performance:

- Affinity Water, Bristol Water and United Utilities argue in favour of symmetric underperformance and outperformance payments for asset health-related performance commitments to improve long-term outcomes;
- Hafren Dyfrdwy and Severn Trent Water say the risks of potential overinvestment through outperformance payments need to be balanced against the long-term focus of PR24; and
- five companies propose using funding mechanisms such as Price Control Deliverables (PCDs) instead of ODIs for asset health-related performance commitments.

Stakeholders provide the following comments on valuations for asset health-related performance commitments:

- four companies and CCW support using inferred marginal benefits, noting the importance of a standardised industry-wide approach;
- South West Water considers direct customer valuations of asset health-related performance commitments can be done;
- Bristol Water, SES Water and United Utilities support using marginal costs, with United Utilities advocating standardisation through industry-wide guidance on cost allocation;
- Bristol Water and Hafren Dyfrdwy support a top-down approach based on RoRE allocations, while Southern Water notes that because the RCV is not explicitly linked to the underlying asset base, a RoRE-based approach would be more arbitrary than one based on allowed expenditure; and
- Southern Water proposes an alternative top-down approach which involves allocating an identified base cost portfolio to each asset health-related performance commitment.

Four companies support using a combination of approaches to setting incentive rates, including cross-checks between bottom-up and top-down valuations.

2.4.3 Our assessment and draft methodology proposals

We consider it is necessary to incentivise asset health improvements for the reasons we set out in our February 2022 discussion document. We are concerned companies do not put sufficient weight on the long-term consequences of not properly maintaining their assets, such as greater risks of service failures or higher costs to remedy issues, which customers bear in part or in full. Even if companies are exposed to these long-term consequences via future ODI rates on customer-facing performance commitments or the cost sharing mechanism, they may not put sufficient weight on this. Incentivising asset health performance through ODIs is consistent with our long-term approach at PR24, as set out in chapter 2 of the PR24 draft methodology consultation document.

We recognise that setting incentive rates to appropriately incentivise asset health performance is challenging. **Our preference is an inferred benefits approach**, because this should lead to rates that are proportionate to the future impacts on customers and the environment. It is also consistent with our approach to other performance commitments.

We do not consider direct valuations are appropriate. Where this was attempted at PR19, the results were not meaningful, because customers struggled to properly value the impacts of a company not maintaining its asset health, particularly where the customer impact is likely to be indirect (such as from a sewer collapse). Research also suggests that areas which require technical expertise to understand may be less appropriate for customer research.[5]

While using marginal costs would enable companies to recover the costs of improvements and return unspent costs to customers, we are concerned that marginal cost estimates may be challenging to verify. We consider it will continue to be challenging to collect credible and consistent evidence of short-run or long-run marginal costs at PR24. Even with industry-wide guidance, there are risks to customers. If marginal costs substantially exceed marginal benefits, then this could encourage inefficient investment. If marginal costs are substantially below marginal benefits, and there are increasing marginal costs in the short run, then companies may be insufficiently incentivised to pursue improvements and customers are likely to be undercompensated.

We **propose to work collaboratively with companies and other stakeholders to develop a standardised approach** to mapping marginal benefits to asset health-related performance commitments, consistent with our approach to the collaborative customer

[5] Blue Marble for CCW, 'Engaging water customers for better consumer and business outcomes', May 2020.

research. This includes developing consistent assumptions, such as discount factors and the extent that companies already take account of future customer impacts, to avoid double counting. We intend to build on comparable approaches used by some companies at PR19, such as South Staffs Water, South West Water, Thames Water and United Utilities.

If we consider this will not generate sufficiently reliable and consistent estimates of marginal benefits, or will add disproportionate complexity, we will consider alternative approaches, including top-down approaches. In line with our proposed approach set out in section 2.2, we expect to **cross-check incentive rates against a range of considerations**, including assessing the emerging effects of PR19 rates on performance and likely top-down RoRE impacts and make adjustments if necessary.

We propose to set **symmetrical rates for asset health-related performance commitments**, and use relatively tight outperformance caps to address potential diminishing marginal benefits from outperformance if necessary (see section 5.1 for more details). We consider this proposed approach is appropriate because it:

- recognises the balance between incentivising companies to invest for the long term, consistent with our PR24 ambitions, and protecting customers from overinvestment due to potential diminishing marginal benefits;
- removes potential distortions around the performance commitment level by removing the kink in incentive rates – while there are also distortions around outperformance caps, we consider they will be sufficiently beyond performance commitment levels and therefore much less likely to be triggered; and
- reflects that, in practice, diminishing marginal benefits may not be likely in the short term for the asset health-related performance commitments we are proposing at PR24, such as sewer collapses which occur across a company's network and are likely to affect different customers.

We do not consider PCDs, which are designed to return funding to customers for the non-delivery of specific outcomes or outputs, would be appropriate in place of asset health-related performance commitments, which are intended to reflect long-term outcomes. We set out our proposed approach to PCDs in Appendix 9 – Setting expenditure allowances.

2.5 Bespoke ODIs

2.5.1 Our February 2022 discussion document

We said that when submitting their proposals for ODI rates for bespoke performance commitments, we would expect companies to have regard to our reasoning for ODI rates for common performance commitments, with appropriate rationale and evidence where an alternative approach is required for local circumstances.

2.5.2 Stakeholders' views

We received no detailed comments on incentive rates for bespoke performance commitments.

2.5.3 Our assessment and draft methodology proposals

As we set out in chapter 5 of the PR24 draft methodology consultation document, companies will be able to propose bespoke performance commitments in certain circumstances.

We consider the policy principles that we outline in section 2.2 should apply when setting ODI rates for bespoke performance commitments. That is, companies propose bottom-up estimates of marginal benefits that reflect impacts on customers and the environment, and we would set a benefit sharing factor during the determinations phase of PR24. We are proposing a consistent approach because we consider the objectives for common performance commitments also apply for bespoke performance commitments, such as strongly incentivising performance improvements.

When estimating marginal benefits, companies should aim to conduct complementary research that is broadly consistent in approach to the collaborative customer research for common performance commitments, ie focused on the relative impacts on customers. This would help to provide internal consistency within the outcomes framework and align incentives with customers' relative priorities.

This research could be in collaboration with other companies and stakeholders, particularly where companies share performance commitment definitions. When doing research, we expect companies to achieve the standards set out in our PR24 customer engagement policy position paper.

See our proposed minimum expectations in relation to bespoke performance commitments in the context of business plan incentives in Appendix 12 – Business plan incentives.

Box 2.2 – Guidance on producing valuations for bespoke performance commitments using the collaborative customer research methodology

As set out on our website, our proposed approach to the collaborative customer research into ODI rates starts with:

- an **impact-based exercise**, which quantifies the relative impacts of individual incidents on customers and the environment, with an index value for each incident;
- a **compensation-based exercise**, which derives 'anchor' monetary values for specific incidents, which are then applied to all incidents using the impact index.

Where necessary, valuations are then '**mapped**' to the final definitions of performance commitments.

Accent and PJM Economics, which developed the research methodology, suggest an approach to making research for bespoke performance commitment valuations consistent with the approach to common performance commitments.[6] They suggest using an impact-based approach.

For example, a company could replicate the impact-based exercise with an incident covered by its proposed bespoke performance commitment and a selection of impacts, including those used to 'anchor' monetary values in the compensation-based exercise within the main collaborative customer research. Rather than replicate the compensation-based exercise, the company could derive the bespoke performance commitment valuation based on its relative impact compared to a valuation developed through the collaborative research.

While we do not anticipate that bespoke performance commitments should overlap with incidents covered by other performance commitments, the company could replicate the modelling approach developed during the analysis phase of the collaborative research, which we intend to share with companies. In some cases, companies may be able to use values directly from the collaborative research with additional mapping where appropriate.

We will consider whether further guidance, or discussion through the steering group of the collaborative customer research, is required.

[6] See section 5.4 of Accent and PJM Economics, 'Outcome delivery incentive research: Design of methodology – Stage 1 report', January 2022.

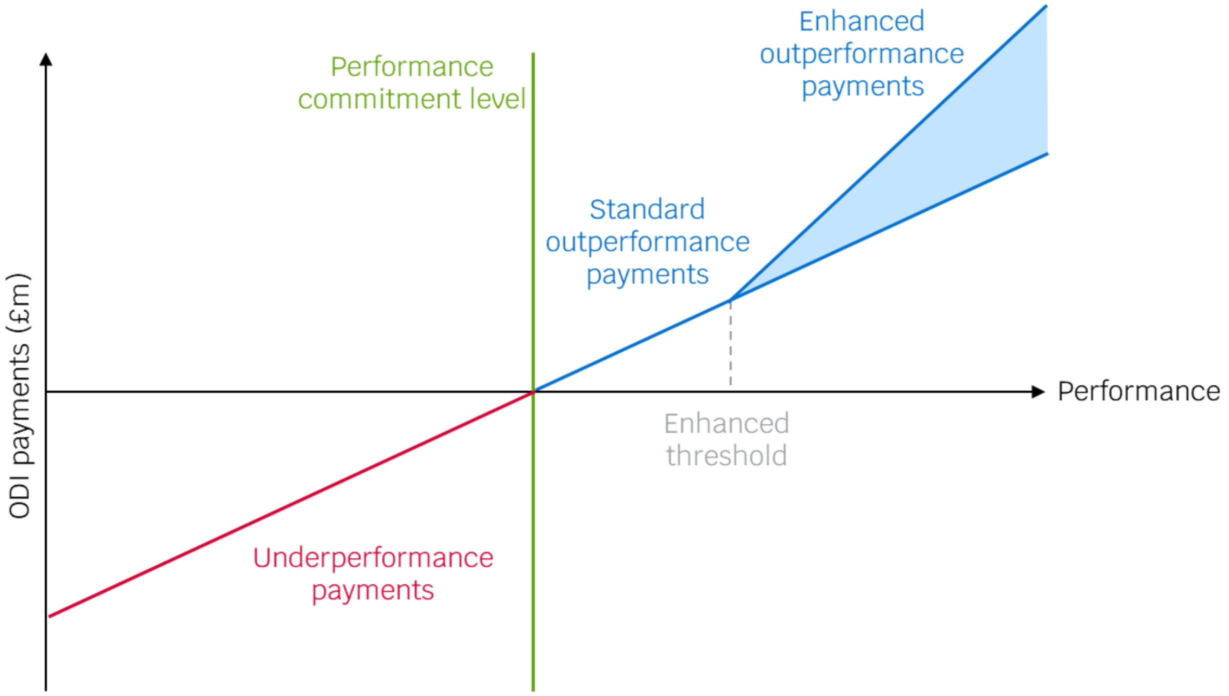
3. Enhanced incentives

We introduced enhanced incentives at PR19. They are designed to encourage companies to innovate to deliver major performance improvements beyond the best level currently achieved by any company. This would enable us to set more stretching performance levels in future price reviews, benefiting the customers of all companies.

In this section, we consider whether we should retain enhanced incentives at PR24. We then consider more detailed design issues, including:

- the **scope of enhanced incentives** – the criteria for selecting performance commitments to have enhanced incentives at PR24;
- **enhanced thresholds** – the level of performance beyond which companies are able to earn enhanced outperformance payments for individual performance commitments;
- **enhanced incentive rates** – the incentive rates that companies can earn for performance beyond their enhanced thresholds, which are higher than standard incentive rates to reflect the sector-wide benefits from very high performance;
- **enhanced caps** – these limit the amount that companies can earn in enhanced outperformance payments from individual performance commitments; and
- **realising sector-wide benefits** – through our approach to setting performance levels in future price reviews, and ensuring knowledge behind enhanced performance is shared.

Figure 3.1 – Illustrative example of enhanced incentives, proposed PR24 approach



3.1 Retaining enhanced incentives

3.1.1 Our February 2022 discussion document

We asked whether we should retain enhanced incentives at PR24. We noted that innovation remains important at PR24, and that we need to consider the use of enhanced incentives alongside the use of wider mechanisms to incentivise innovation, such as the innovation fund. We also said we were seeking to simplify the price review where the level of complexity is not proportionate to the benefits.

We noted that enhanced incentives have only been in operation for one reporting year, with limited data to assess their effectiveness at this stage. Nonetheless, we observed that no companies received enhanced payments in 2020-21, although two companies came close.

We also invited views on how we should approach setting enhanced incentives, should we decide to retain them at PR24. We suggested that we could expand the scope of enhanced incentives to apply to all companies, rather than be proposed by companies in their business plans. We also suggested we could apply enhanced incentives to more performance commitments than at PR19, provided there is sufficiently robust data to set appropriately stretching enhanced thresholds and clear benefits from high performance.

3.1.2 Stakeholders' views

Eight water companies and the Environment Agency support retaining enhanced incentives at PR24, while four companies say they do not. Supportive stakeholders say enhanced incentives are useful where innovation is required, while concerns relate to a lack of available evidence on their effectiveness and that they could lead companies to excessively focus on individual performance commitments.

Dŵr Cymru, Thames Water and United Utilities consider that enhanced incentives are too complex currently, and that removing them would simplify the framework.

Dŵr Cymru says that its customers were sceptical of standard incentive rates at PR19, so it considers they would not support enhanced incentive rates at PR24. Bristol Water also says it did not find customer support for enhanced incentive rates at PR19.

South West Water and CCW support applying enhanced incentives to all companies. Northumbrian Water, Thames Water and United Utilities say they do not support expanding enhanced incentives to all companies, suggesting that the level of performance achieved by an enhanced outperformer would be unachievable for other companies or not optimal, companies have different starting levels of performance, in terms of relative efficiency and available funding, and that poor performers may overly focus on these performance commitments to the detriment of other performance commitments.

Instead of enhanced incentives, Yorkshire Water proposes widening or removing caps and collars on standard ODIs.

Severn Trent Water and Hafren Dyfrdwy consider that there are risks with retaining enhanced incentives if enhanced underperformance payments apply to poor performing companies in the lower quartile if extreme events are not excluded from performance. South Staffs Water suggests that standard underperformance rates should be sufficient to disincentivise deterioration in performance.

3.1.3 Our assessment and draft methodology proposals

We consider the following options for enhanced incentives at PR24:

- **Option 1 – Remove enhanced incentives**. We would not set any enhanced incentives at PR24.
- **Option 2 – Maintain enhanced incentives (our PR19 approach)**. Companies would be able to request enhanced incentives for common performance commitments, and we would assess their detailed proposals.
- **Option 3 – Expand and streamline enhanced incentives**. We could require all companies to have enhanced incentives on selected common performance commitments, based on a set of criteria. We would streamline how we assess and set enhanced incentives where possible.

We do not consider option 1 is appropriate, as it would not be as effective in delivering our PR24 ambitions. In particular, enhanced incentives have the potential to strongly incentivise companies to innovate and deliver major performance improvements. This can deliver wider environmental and social value, particularly where the performance commitments in scope relate to environmental outcomes. Option 1 should also help to support companies to take a long-term focus on when considering how to invest to improve their performance.

We recognise that there are other mechanisms that encourage innovation – such as the cost sharing mechanism and innovation fund. However, at this stage we consider that all of our regulatory tools are required to encourage a step change in attitudes in the water sector. We consider these tools to be complementary as enhanced incentives are intended to remunerate companies on delivery of innovation leading to improved outcomes, whereas the innovation fund provides upfront funding and is focused on increasing the capacity of companies to discover and deliver innovations over the long term. The cost sharing mechanism is complementary and focused on encouraging innovations that result in lower costs rather than long-term improvements in performance.

While there is currently limited evidence of the effectiveness of enhanced incentives, as they were only introduced in PR19, we observe that some companies are close to earning enhanced outperformance payments. We also note that it is relatively early in the 2020-25 period and that we would expect it to take time for companies to discover, test and implement innovations.

We recognise there are potential drawbacks with retaining enhanced incentives at PR24. They can lead to customers paying more for improvements, potentially above their willingness to pay in the short term. In line with our proposed approach to enhanced incentive rates (see section 3.4), we consider at most customers will pay twice their marginal benefits for a unit of improved performance, and should experience most of the benefits in future price control periods. In addition, it is likely that the new level of performance revealed by enhanced incentives would not otherwise have been achieved.

In addition, as well as benefiting customers in current and future periods, our analysis in section 3.5 indicates that maximum returns from enhanced incentives at PR19 are around 0.9% water or wastewater RoRE per performance commitment. If enhanced thresholds are sufficiently stretching, only a subset of performance commitments should reach their thresholds, and maximum payments would be unlikely. Therefore, we consider that the overall scale of potential enhanced payments should provide strong and reasonable incentives.

Enhanced incentives can also increase complexity – we discuss how we could streamline our approach below.

We now consider the relative merits of options 2 and 3 – maintaining our PR19 approach to enhanced incentives, or expanding and streamlining them.

Expanding enhanced incentives to all companies would give them an equal chance to earn enhanced outperformance payments, which should benefit the customers of all companies regardless of which individual company pushes forward the frontier. This increases the probability of higher performance for all customers.

Stakeholders have suggested that there was substantial complexity and inconsistency during PR19, with some companies receiving different enhanced thresholds, rates and caps for the same performance commitment. For example, in 2020-21, we observe the enhanced thresholds for internal sewer flooding for Severn Trent Water, South West Water and Wessex Water are less stretching than Yorkshire Water's standard outperformance cap. This was primarily caused by enhanced incentives being opt in, and our approach to setting thresholds based on companies' proposals where they were more stretching than our estimates. This risks distorting companies' incentives to propose stretching thresholds and potentially provides weaker incentives to improve during the period. We consider prescribing which performance commitments have enhanced incentives, and with standardised thresholds, rates and caps across companies, should reduce these inconsistencies, simplify the assessment process and be more proportionate overall. It is also more consistent with our approach to common performance commitments and performance commitment levels.

For these reasons, **we are proposing option 3 – to expand and streamline enhanced incentives**. We are also proposing to set **enhanced incentives as outperformance-only**. This reflects the sector-wide benefits from very high performance, which does not have the same impact for underperformance. This helps to address the concerns raised by some respondents with enhanced underperformance payments, particularly alongside our proposal to expand enhanced incentives to all companies.

We address specific comments raised by stakeholders that are not covered above:

- **Companies currently have different levels of performance**. Different levels of performance could be due to management decisions or differing levels of efficiency. As we cover in the next section, we are proposing to restrict enhanced incentives to performance commitments where efficient companies have similar chances of significant outperformance.

3.2 Scope of enhanced incentives

3.2.1 Our February 2022 discussion document

We noted that, at PR19, only common performance commitments could have enhanced incentives to ensure thresholds and payments were based on frontier-shifting performance relative to the sector. We noted that in the PR19 final determinations, nine companies had enhanced incentives covering five performance commitments (internal sewer flooding, leakage, per capita consumption, water supply interruptions and pollution incidents).

3.2.2 Stakeholders' views

Yorkshire Water says that enhanced incentives should only be used where customers express a strong desire for companies to significantly improve performance, and for performance commitments where targets being set are demonstrably stretching but achievable within cost allowances.

Thames Water suggests applying enhanced incentives to performance commitments with long-term targets, such as net zero greenhouse gas emissions.

Natural Resources Wales asks if there is value in applying enhanced incentives for catchment and nature-based solutions.

3.2.3 Our assessment and draft methodology proposals

Consistent with PR19, we consider only common performance commitments should be eligible for enhanced incentives at PR24. This means we should have greater confidence that we will set robust thresholds, as we should be more able to benchmark performance across companies, and that the customers of all companies will be able to benefit from shifting the frontier.

To further ensure that customers benefit from enhanced outperformance, we are proposing that enhanced incentives only apply to common performance commitments that meet the following criteria:

- **clear benefits** to customers from very high performance;
- **well-established performance commitments** that enable us to set robust enhanced thresholds;
- **limited company-specific factors** associated with performance, so all efficient companies have a similar chance of meeting the threshold – in most cases, this should be performance commitments that have a common performance commitment level (see section 4.1 of Appendix 9 – Setting expenditure allowances); and
- **no perverse interactions** with the wider price review framework, such as enhancement cost allowances for some companies, which risk customers paying twice for the same improvement in performance, or the bidding competition for greenhouse gas emissions reduction, which could risk fewer bids and customers paying more than they should for improvements.

This **suggests four performance commitments are likely to have enhanced incentives at PR24**:

- water supply interruptions;
- internal sewer flooding;
- external sewer flooding; and
- total pollution incidents.

It is **less clear for water demand-related performance commitments**, which include leakage and per capita consumption. While both performance commitments had enhanced ODI rates at PR19, we are considering not continuing this at PR24. This is because there is a risk of perverse interactions between enhanced incentives and enhancement cost allowances, particularly if they differ significantly between companies. Company-specific cost allowances would make it unlikely for all efficient companies to reasonably achieve enhanced thresholds, which we intend to set on a consistent basis. They could also lead to some customers paying twice for the same improvement in performance. We therefore propose to review the suitability of enhanced incentives for water demand-related performance commitments during the determinations phase of PR24.

We consider the performance commitments or outcomes suggested by respondents do not meet our proposed criteria for enhanced incentives. Operational greenhouse gas emissions is a relatively new performance commitment at PR24, and there are likely to be perverse interactions with our proposed bidding process (see section 5.2.1 of Appendix 9 – Setting expenditure allowances). We consider catchment and nature-based solutions are supported by our overall outcomes-totex framework, which gives companies the flexibility to explore a range of options when delivering improved outcomes. New performance commitments for biodiversity and operational greenhouse gas emissions should support this further.

3.3 Enhanced thresholds

3.3.1 Our February 2022 discussion document

We noted that during the PR19 final determinations, we generally accepted companies' proposed enhanced outperformance thresholds where they were greater than our estimates, to reflect asymmetry of information between us and companies. Our estimates were based on a combination of companies' proposals, historic performance, and an expectation of gradual improvements over time.

We set enhanced underperformance thresholds at the lower quartile of recent historic performance.

3.3.2 Stakeholders' views

Seven companies request that enhanced outperformance thresholds should be realistic and achievable to have the correct incentive properties.

3.3.3 Our assessment and draft methodology proposals

We want to set enhanced thresholds on a consistent and streamlined basis, with the same enhanced thresholds for all companies for each performance commitment.

We propose that enhanced thresholds for each performance commitment are set with the aim to only reward companies for performance that is delivered through genuine innovation. Given enhanced incentive rates are likely to be set above customers' willingness to pay for individual improvements, we need to balance incentivising companies with protecting customers. We consider that enhanced thresholds should be set at least beyond the current frontier level of performance for each performance commitment, informed by historical and forecast performance.

As we set out above, we are proposing to not have enhanced underperformance thresholds or payments at PR24.

3.4 Enhanced incentive rates

3.4.1 Our February 2022 discussion document

We noted that during the PR19 final determinations, we generally accepted companies' proposed enhanced incentive rates where they were greater than our estimates, to reflect asymmetry of information between us and companies. We based our estimates on our view of the 'benchmarking externality', which quantified the benefit to all customers when a company delivers excellent performance that will improve sector benchmarks and push the sector forward in the next price control period. It was based on a number of assumptions and was a multiplier of a company's standard incentive rates.[7]

3.4.2 Stakeholders' views

South West Water says that its customers supported enhanced incentive rates set at double its standard incentive rates during PR19.

3.4.3 Our assessment and draft methodology proposals

For enhanced incentive rates, we consider two options:

- **Option 1 – Use a benchmarking externality (our PR19 approach)**. Conceptually, this estimate should reflect the benefit to all customers when a company delivers excellent performance that leads to more stretching performance commitment levels in future

[7] For details of our approach at PR19, see annex 3 of PR19 final determinations: Delivering outcomes for customers policy appendix, Ofwat, December 2019.

price control periods. It starts with companies' proposed standard incentive rates, and adjusts them based on assumptions about the likely impact of performance changing the sector benchmark at the next price review, diminishing marginal benefits, cost sharing rates and distributional concerns for customers of smaller companies.

- **Option 2 – Set at twice the standard incentive rates**. This would multiply companies' standard incentive rates by two. Depending on whether there are differences in standard incentive rates, we could either set **company-specific rates (option 2A)**, where a company's standard incentive rate is multiplied by two, or a **common rate for all companies (option 2B)**, where a weighted average of all companies' standard incentive rates is multiplied by two.

Option 1 would be likely to provide stronger incentives than option 2 (at PR19, on average they were 2.6 times greater than standard incentive rates). However, this could be significantly above customers' willingness to pay, particularly given our proposed approach to set relatively higher standard outperformance rates at PR24 compared to PR19. It would also involve material complexity and relies on a number of subjective assumptions around impact probabilities, diminishing returns and distributional adjustments.

We propose option 2. This is a simpler and more proportionate approach than at PR19. It should also ensure that customers do not pay substantially more than their willingness to pay, as reflected by the marginal benefit estimates in standard incentive rates.

While it could be argued that option 2 is a more cautious approach, we consider it should still provide strong incentives on companies to innovate while protecting customers because:

- standard and enhanced outperformance payments should still be relatively high, due to our proposals on standard incentive rates (see section 2.2);
- how we set future performance commitment levels enables high-performing companies to earn further outperformance in future price control periods (see section 3.6), including through our proposal to use 2024-25 performance commitment levels to inform the starting point for PR24 performance commitment levels (see section 4.2 of Appendix 9 – Setting expenditure allowances); and
- high-performing companies can also access to the innovation fund.

There is also a risk that the sector-wide benefits from enhanced performance could be delayed, so we consider a more cautious approach is justified.

We are **open minded about setting company-specific rates** (option 2A) **or common rates** (option 2B). If there are material differences between companies' standard incentive rates, company-specific rates would more closely reflect the willingness to pay of a company's customers. But it could lead to relatively high contributions to sector-wide benefits from the customers of some companies. In this case, a common rate, which would be an average weighted by each company's proportion of connected properties, would more closely align contributions with the benefits to all customers (as all customers ultimately gain from the innovation) but would add complexity and could weaken the link to the willingness to pay of some customers.

3.5 Enhanced caps

3.5.1 Our February 2022 discussion document

Similar to caps on standard incentives, enhanced caps limit the amount that companies can earn in enhanced outperformance payments from individual performance commitments. In our February discussion document, we noted that during the PR19 final determinations, we set enhanced caps to limit enhanced outperformance payments for each performance commitment to be no greater than 1% of a company's water or wastewater regulatory equity. This is in addition the standard outperformance payments that can be earned by companies up to their enhanced thresholds.

For PR19, customers are also protected by the existing aggregate sharing mechanism, which shares outperformance payments equally between companies and customers when they exceed 3% water or wastewater equity, on top of individual enhanced caps.

3.5.2 Stakeholders' views

We received no comments from stakeholders on this issue.

3.5.3 Our assessment and draft methodology proposals

We consider two options:

- **Option 1 – Remove enhanced caps**. This would not limit the amount that companies can earn from enhanced outperformance payments. Customers would be protected by our approach to setting enhanced thresholds, and our proposed aggregate sharing mechanism (see section 5.1).
- **Option 2 – Maintain enhanced caps**. We would limit the amount that companies can earn from enhanced outperformance payments, alongside our wider protections.

We are **proposing to remove enhanced caps at PR24**. As with standard incentives, caps can weaken incentives on companies to keep outperforming, which may lead to companies with enhanced incentives not fully revealing new frontier performance and therefore limit the realisation of sector-wide benefits. Enhanced caps would also add to the complexity of our determinations.

However, we recognise that, given our proposed aggregate sharing mechanism has no hard limit and the sharing thresholds are set at a relatively high level (our initial proposals are 3% and 5%), customers could overpay for improvements, particularly if we set insufficiently stretching performance commitment levels or enhanced thresholds. A company could also over-focus on an individual performance commitment to the detriment of other performance commitments – which could be exacerbated by the aggregate sharing mechanism if a company earns very high enhanced outperformance payments such that marginal incentives to outperform on other performance commitments are diminished.

We consider these risks can be mitigated by our proposal to only set enhanced incentives for well-established performance commitments, which should result in robust performance commitment levels and enhanced thresholds. We are also proposing to set the aggregate sharing mechanism on a net basis, which should lessen the impact of enhanced outperformance payments weakening incentives on other performance commitments.

We also note that the performance commitments which we expect to have enhanced incentives at PR24 have 'natural limits'. This means that beyond a certain point, further outperformance is not possible, such as zero sewer flooding incidents. Using PR19 performance commitment levels, enhanced incentive rates and thresholds for 2020-21, we estimate the most that a company could earn in enhanced payments on water supply interruptions, internal sewer flooding or pollution incidents is around 0.9% RoRE on average per performance commitment each year.[8] Including standard payments up to enhanced thresholds, this rises to around 1.4% RoRE. However, we would only expect a subset of companies to reach enhanced thresholds on a subset of these performance commitments, and in practice it is unlikely that they would reach these maximum payments.

For the water demand performance commitments (including leakage and per capita consumption) we estimate the maximum annual returns would be much higher but are highly unlikely in practice. If we have enhanced incentives at PR24 on water demand performance commitments and have material concerns, we could set enhanced caps on only these performance commitments.

[8] We calculate RoRE separately for water and wastewater services rather than at an appointee level. For the purposes of this analysis, we assume notional gearing of 60%.

3.6 Realising sector-wide benefits

3.6.1 Our February 2022 discussion document

We noted that during the PR19 final determinations, we required companies with enhanced incentives to propose knowledge sharing plans in their business plans, to share learning on what had worked and what had not, which we said we would take into account when reconciling enhanced incentive payments.

3.6.2 Stakeholders' views

Dŵr Cymru says it considers frontier performance is primarily driven by company-specific conditions, so there is limited benefit to shareable learnings.

3.6.3 Our assessment and draft methodology proposals

Knowledge sharing is a key aspect of enhanced incentives. It is how the customers of all companies ultimately benefit. If companies that earn enhanced outperformance payments do not communicate how they delivered this to other companies in a timely manner, there is a risk that other companies do not achieve similar performance. In this scenario, if we continue to set performance commitment levels based on historic sector benchmarks, the innovating company would continue to receive outperformance payments in future periods. Unless we actively adjust the benchmark that we use for setting future performance commitment levels, the customers of all other companies will not benefit.

We could set future performance commitment levels at the frontier level of performance revealed by the innovating company. We do not consider this option would provide a fair incentive on other companies in the following period, particularly if knowledge sharing does not take place or is untimely. Reduced likelihood of standard outperformance payments in future periods may also weaken incentives on companies to explore innovations and incur discovery costs in the current period, which could undermine the purpose of enhanced incentives.

In line with our general approach to setting performance commitment levels, we would expect to use an observed sector benchmark to inform this, rather than frontier performance. This should incentivise frontier companies to continue to explore ways of achieving further outperformance. We **may take into account enhanced outperformance in limited circumstances**, such as where we consider customers will materially overpay for enhanced outperformance due to knowledge sharing being substantially delayed.

However, we need confidence that the benefits of enhanced incentives flow through to customers in the wider sector. We therefore **propose to require companies to undertake timely knowledge sharing about how they achieved enhanced performance**. We consider that shareable learnings should be achievable based on the criteria we are proposing to apply enhanced incentives to performance commitments (see section 3.2). To protect customers, we will claw back payments in future price reviews, or earlier, if we consider a company fails to carry out timely knowledge sharing activities.

Because we are expanding enhanced incentives to all companies, we are proposing to not require companies to produce knowledge sharing plans within their business plans. Instead, we would expect to see companies carry out knowledge sharing activities that are consistent with the principles of openness, transparency and accessibility. We could set out more detailed criteria informed by practice during the 2020-25 period.

By ensuring that we only select performance commitments with limited company-specific factors that affect performance (in line with our proposed criteria in section 3.2), we consider that knowledge sharing should deliver benefits.

4. Measures of experience

In this section we consider the incentive design and size of the measures of experience performance commitments:

- customer measure of experience (C-MeX), introduced at PR19;
- developer services measure of experience (D-MeX), introduced at PR19; and
- business customer and retailer measure of experience (BR-MeX), proposed for PR24.

We consider the detailed definitions of these performance commitments in Appendix 6 – Performance commitments.

4.1 C-MeX

4.1.1 Background

We introduced the customer measure of experience (C-MeX) in PR19, replacing the service incentive mechanism (SIM) as our primary tool for improving service for residential customers. Companies can receive outperformance payments or incur underperformance payments based on their annual score compared to other companies.

Payments depend on where a company scores relative to both the median company and either the highest or lowest performing company scores. Companies that score above the median company receive standard outperformance payments of up to 6% of that year's allowed residential retail revenue, while those that score below incur underperformance payments of up to 12%. The median company does not receive any payments.

Companies that compare favourably to other sectors can earn additional higher performance payments that increase their total outperformance payments to up to 12% of allowed residential retail revenue.

4.1.2 Stakeholders' views

In its response to our November 2021 consultation on performance commitments, CCW suggests using C-MeX as a gateway to other outperformance payments across all performance commitments, or increasing the value of C-MeX to be greater than the value of other ODIs in order to strengthen companies' focus on customer satisfaction.

4.1.3 Our assessment and draft methodology proposals

We are **proposing to retain the overall incentive design of C-MeX**, with outperformance payments for companies that score above the median and underperformance payments for those that score below. The incentive design was only implemented in 2020 and we have no reason to revise it at this stage.

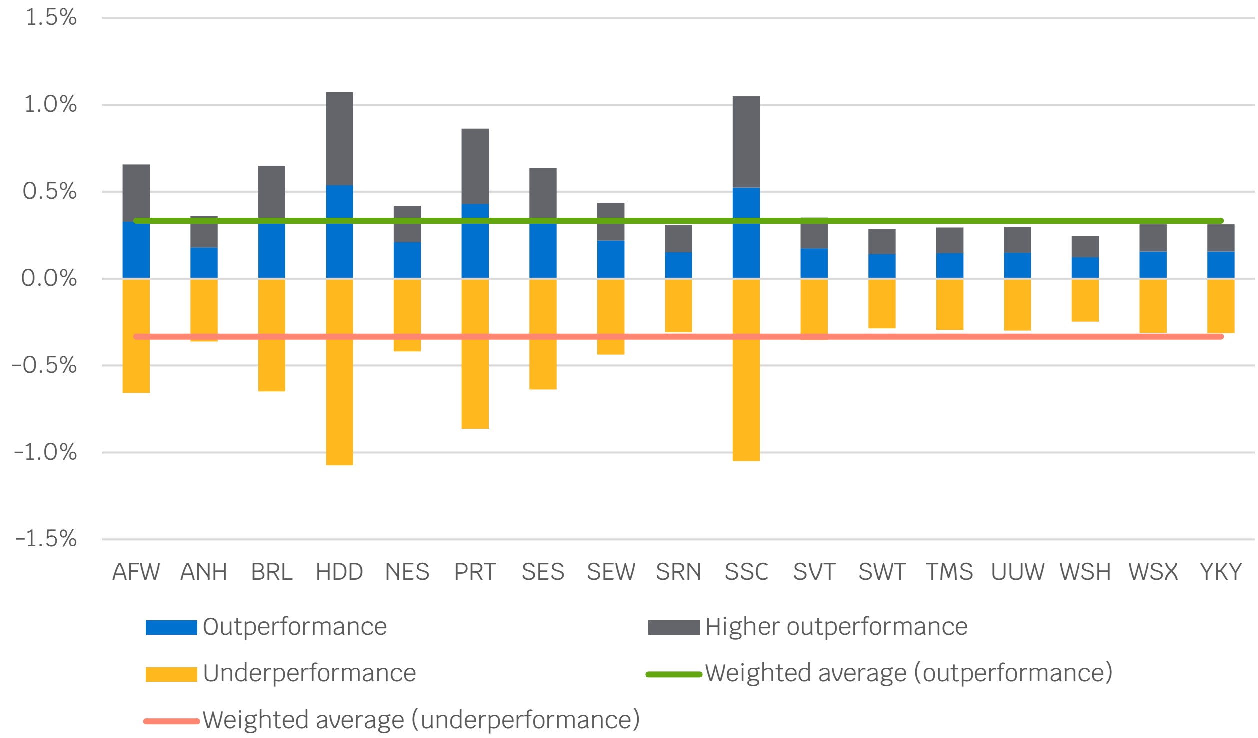
We consider making C-MeX act as a gateway to all other outperformance payments would add complexity and could risk distorting marginal incentives on companies to improve their operational performance where there is a benefit to customers and the environment.

However, we are **considering increasing the overall incentive size for C-MeX**, which is currently up to ±12% of allowed residential retail revenue, including higher payments, to further focus companies on improving their customer service. This is because CCW has suggested that the number of complaints that it directly receives from household customers about water companies, which are more likely to relate to material issues, has not fallen in the first year of C-MeX (it rose by around 6%).[9] While C-MeX has only been in operation for one year, this may indicate that incentives on customer service could be stronger.

Moreover, as shown in figure 4.1, we estimate that the current incentive range is equivalent to around ±0.33% RoRE on average, based on analysis of allowed revenues and RCVs over 2020-25. This varies between companies based on the relative sizes of their allowed retail revenue and RCVs, from Dŵr Cymru with a range of ±0.25% (or ±£2.8m per year) to Hafren Dyfrdwy with a range of ±1.07% (or ±£0.17m per year).

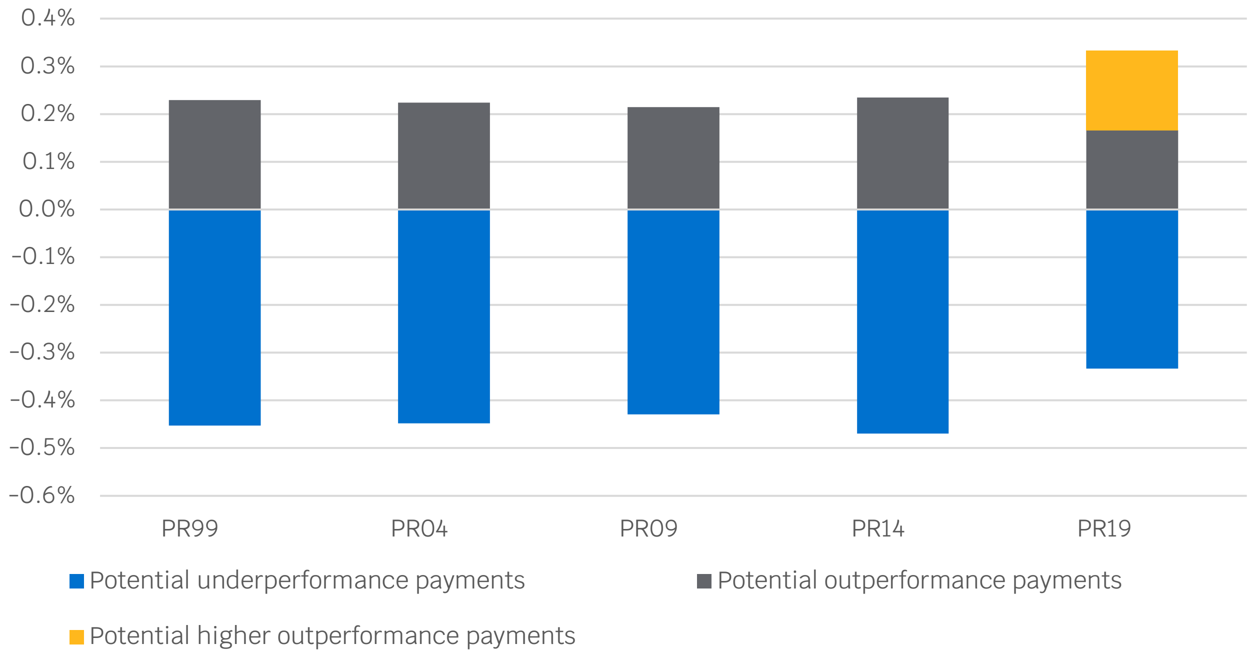
[9] From 6,385 complaints in 2019-20 (see page 33 of CCW, 'Right First Time: A review of water companies' complaint handling in England and Wales', 2020) to 6,776 complaints in 2020-21 (see pages 44-45 of CCW, 'Household customer complaints about water companies', 2021).

Figure 4.1 – Maximum potential payments for C-MeX at PR19, as a proportion of notional regulatory equity (weighted average based on companies' RCVs)



We note that the overall incentive size for customer service incentives has been broadly the same for over 20 years. SIM, which operated until 2019, had maximum financial impacts of +6% to -12% of residential revenue, and the Overall Performance Assessment, which was first introduced at the 1999 price review (PR99), had maximum financial impacts of +0.5% to -1% of total revenue. Figure 4.2 shows they had similar RoRE impacts on average. For C-MeX, while companies can achieve higher outperformance payments depending on their performance relative to other sectors, we observe a small decline in terms of RoRE in relation to potential downside returns (accounting for changes in notional gearing over time).

Figure 4.2 – Maximum potential payments for selected customer service incentives over time, as a proportion of notional regulatory equity (weighted average based on companies' RCVs)



We consider increasing the incentive size of C-MeX would help to:

- **counterbalance the observed small decline in RoRE impacts (excluding higher payments)**, which is likely to have been driven by lower allowed retail revenues, RCV growth and changes to notional gearing;
- **address potential lack of improvement in customer service**, indicated by the level of complaints made directly to CCW about water companies; and
- **reflect local circumstances and preferences of customers**, partly compensating for our proposal to have fewer bespoke performance commitments at PR24.

We welcome views on the merits of increasing the size of C-MeX at PR24.

4.2 D-MeX

4.2.1 Background

We introduced the developer services measure of experience (D-MeX) in PR19, to incentivise improved levels of service for developer services customers. Companies can receive outperformance payments or incur underperformance payments based on their annual score compared to other companies.

Payments depend on where a company scores relative to both the median company and either the highest or lowest performing company scores. Companies that score above the median company receive standard outperformance payments of up to 6% of that year's actual developer services revenue, while those that score below incur underperformance payments of up to 12%. The median company does not receive any payments.

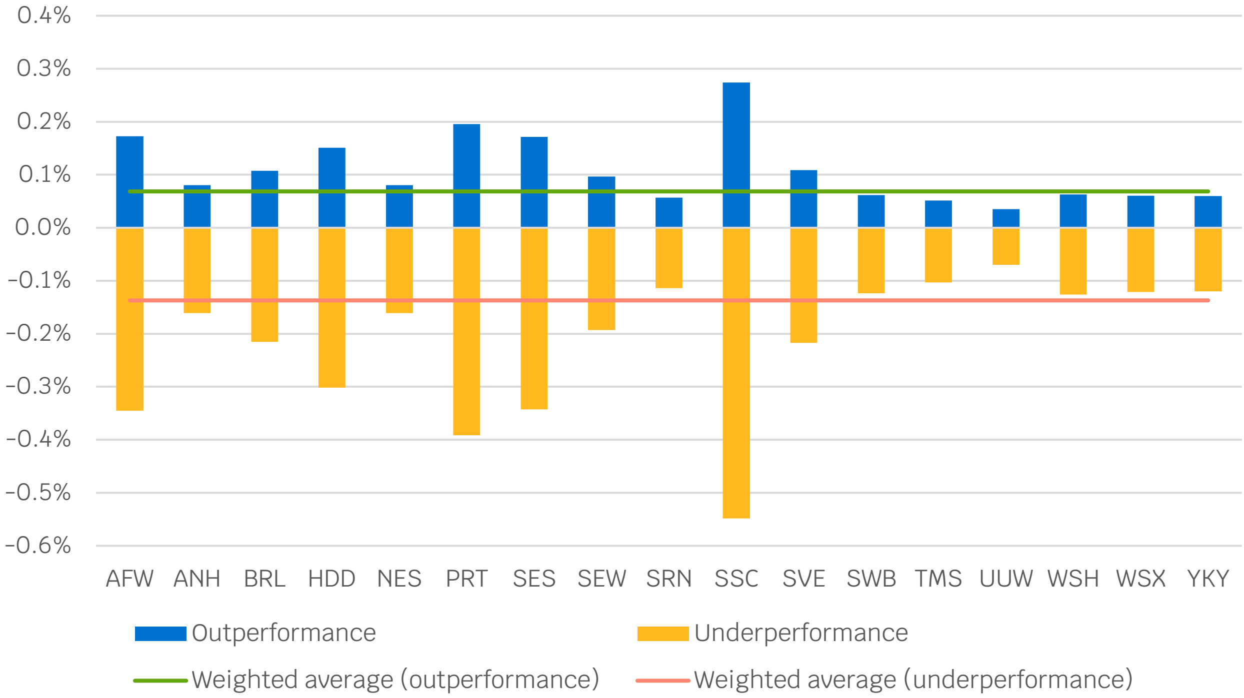
4.2.2 Stakeholders' views

We received no comments on the incentive design or size of D-MeX.

4.2.3 Our assessment and draft methodology proposals

We are **proposing to retain the overall incentive design of D-MeX**, with outperformance payments for companies that score above the median and underperformance payments for those that score below. The incentive design was only implemented in 2020 and we have no reason to revise it at this stage.

Figure 4.3 – Maximum potential payments for D-MeX at PR19, as a proportion of notional regulatory equity in 2020-21 (weighted average based on companies' RCVs)



We estimate that the maximum range of D-MeX payments as a proportion of notional regulatory equity in 2020-21 was around +0.07% to -0.14% RoRE on a weighted average basis. Due to variations in the relative sizes of companies' developer services activity and RCVs, this ranges from United Utilities with a range of +0.03% to -0.07% (or £1.6m to -£3.1m) to South Staffs Water with a range of +0.27% to -0.55% (£0.4m to -£0.8m).

We are not proposing to increase the size of incentive for D-MeX at PR24. While there is limited evidence at this stage, we observe small improvements in companies' performance between the 2019-20 shadow year, when there were no financial incentives, and 2020-21 when they came into effect – average scores increased from 81.8 to 82.2, with some companies showing substantial improvements. At this stage, we consider this currently provides sufficient incentives on water companies but invite views from stakeholders.

4.3 BR-MeX

4.3.1 Background

We discuss our proposals with relation to introducing a new incentive for business customer and retailer measure of experience (BR-MeX), to apply to companies with systems wholly or mainly in England, in Appendix 6 – Performance commitments.

4.3.2 Stakeholders' views

Market Operator Services Limited suggests that improved outcomes for business customers can only be addressed through PR24 and our review of the retail exit code (REC).

4.3.3 Our assessment and draft methodology proposals

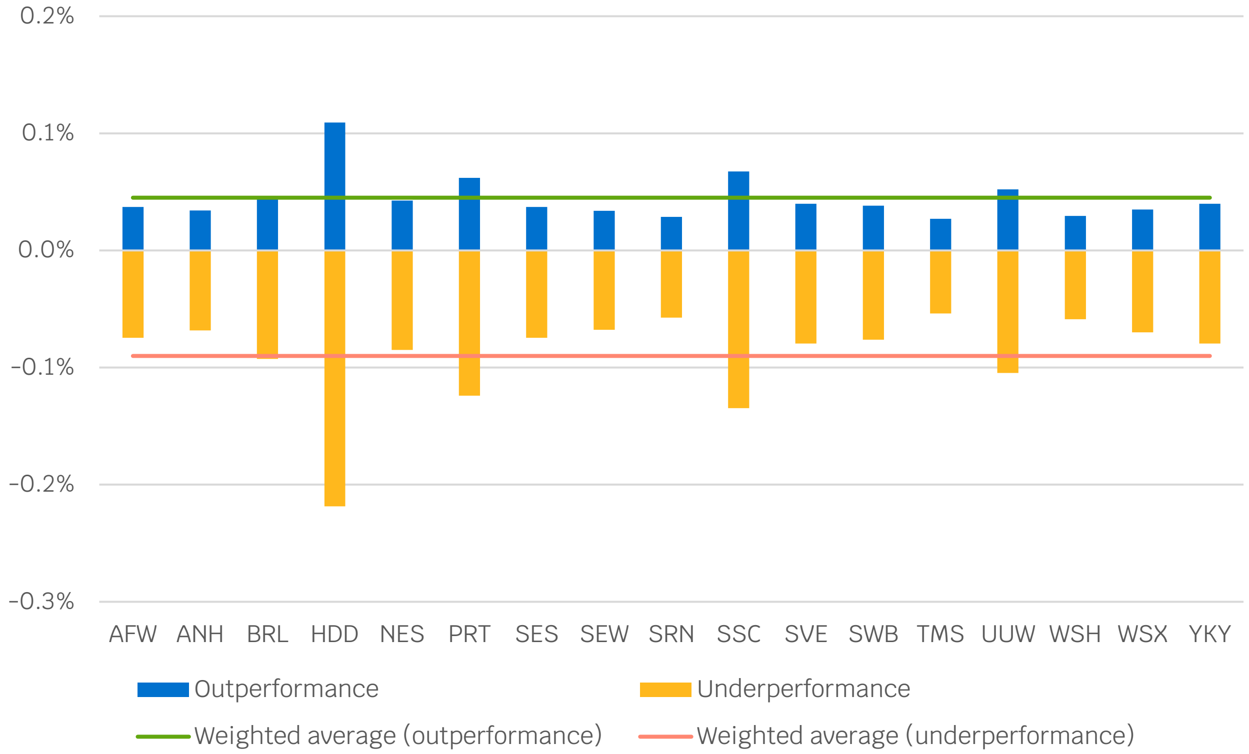
We propose that the overall incentive design for BR-MeX is broadly equivalent to that of D-MeX, and standard payments for C-MeX. That is, companies would be scored based on their relative performance, with outperformance payments for companies that score above the median score and underperformance payments for companies below this.

We propose that the maximum outperformance and underperformance payments for BR-MeX should be proportionate to the activities that are incentivised by C-MeX. We estimate that residential retail revenue and wholesale revenue collected from residential customers totalled £56.5bn over 2015-21 (in 2017-18 prices). Over the same period, the wholesale revenue collected from business customers was £15.2bn – or around 25% of the overall revenue relating to residential customers. We therefore consider that the overall RoRE impact for BR-MeX should be around 25% of that for the current standard payments for C-MeX. We propose that this comparison excludes higher payments for C-MeX, because there is no external benchmark for BR-MeX and to reflect that BR-MeX is a new incentive.

This would mean that the incentive range for BR-MeX would be based on **+0.5% to -1.0% of wholesale revenue collected from business customers**. This equates to potential RoRE impacts of around +0.05% to -0.10%, on a weighted average basis – see figure 4.4.

We invite views on this proposed approach, including whether it should scale with C-MeX if we decide to increase the size of C-MeX at PR24.

Figure 4.4 – Maximum proposed potential payments for BR-MeX as a proportion of notional regulatory equity in 2020-21 (weighted average based on companies' RCVs)



5. Assessing and managing risks

In this section we set out our proposed approaches to:

- customer and company protections – including our proposed approaches to **setting caps and collars** on individual performance commitments, and the use of **aggregate sharing mechanisms**;
- the use of **deadbands** – which can remove financial incentives for performance within a specific range; and
- **estimating ODI risk** – we set out the options that we are considering for estimating risk relating to ODIs at PR24.

5.1 Customer and company protections

5.1.1 Our February 2022 discussion document

ODIs encourage companies to assess and manage risks by exposing them to the consequences of service performance. We want to ensure that companies are strongly incentivised to do this but are not disproportionately exposed to financial risk. We also need to protect customers from outperformance payments that are higher than expected.

Risk exposure can be managed by caps and collars on individual performance commitments, which limit financial impacts of performance beyond a given threshold. We can also make use of aggregate mechanisms to manage risk at a company level.

We did not cover this area in our February 2022 discussion document, although we engaged with water companies and other stakeholders through the Outcomes Working Group in February 2022 on potential approaches to caps and collars.

5.1.2 Stakeholders' views

Some stakeholders comment on caps and collars in response to our February discussion document:

- Three companies say that caps and collars can be used to protect companies and customers where ODI risks are high, with Severn Trent Water and Hafren Dyfrdwy suggesting a tapering of outperformance payments at the company or service level, rather than for individual performance commitments;

- Anglian Water and United Utilities suggest using a top-down approach to inform the levels of caps and collars;
- Thames Water suggests that historic performance distributions could be used to set the levels of caps and collars;
- Anglian Water and South West Water state that consistent caps, collars and deadbands are more important where there are common targets;
- Northumbrian Water proposes setting caps and collars for bespoke performance commitments so that they are a fraction (ie, a third) of caps and collars for common performance commitments;
- Yorkshire Water suggests that performance commitment definitions and caps and collars can help mitigate the risk exposure to companies and customers from risks outside of a company's control; and
- Fast Track Squared (commissioned by Severn Trent Water) suggests there is less need for caps due to more established performance commitments, as the likelihood of outperformance should be more predictable. It also says that concerns about excessive outperformance payments and the impact on customer bills can be addressed through targeted use of caps on individual performance commitments and graduated sharing rates on overall outperformance payments.

In addition, in response to our November 2021 consultation on performance commitments, South East Water raises the concern that there is a difference in outcomes performance for water and wastewater services and that we should reflect this difference, either in the wholesale allowed return or our risk and return approach.

5.1.3 Our assessment and draft methodology proposals

Caps and collars

Caps and collars limit the financial impacts of performance beyond a given threshold. We used them at PR19, primarily to limit the financial materially of individual performance commitments and to account for considerable uncertainty around the data used to set performance commitment levels, particularly for new performance commitments. We found caps and collars complex to set during PR19.

For PR24, we consider we are likely to have **greater data certainty and confidence** in how we set performance commitment levels and ODIs, reflecting the growing maturity of the outcomes framework.

We also observe that **caps and collars can distort company behaviour**. In 2020-21, we found that for 10% of performance commitments with caps or collars, companies performed beyond their respective cap or collar. We estimate this equates to foregone underperformance payments to customers of £90m (compared to £170m that were paid).

Conversely, only £7.5m of outperformance payments were foregone (compared to £159m that were paid). This suggests that once a collar is reached for an individual performance commitment, companies may have an incentive to let their performance deteriorate because they are financially indifferent to declining performance beyond the collar. Similarly, once a cap is reached, companies will have no financial incentive to improve further, even if there are benefits to customers and the performance of other companies suggests that further outperformance is possible.

For these reasons, we **propose to only use caps and collars on a targeted basis**, to provide greater exposure and stronger incentives on companies at PR24, and to simplify our overall framework. We are proposing to not have caps or collars on well-established performance commitments, and to only apply them to performance commitments that are new or bespoke, as there is a risk of excessive payments due to mis-specified performance commitment levels or ODIs, or where the benefits from high outperformance are uncertain (such as asset health-related performance commitments).

This suggests that the following common performance commitments will have caps and collars at PR24:

- biodiversity;
- operational greenhouse gas emissions;
- bathing water quality;
- river water quality;
- storm overflows;
- mains repairs;
- unplanned outage; and
- sewer collapses.

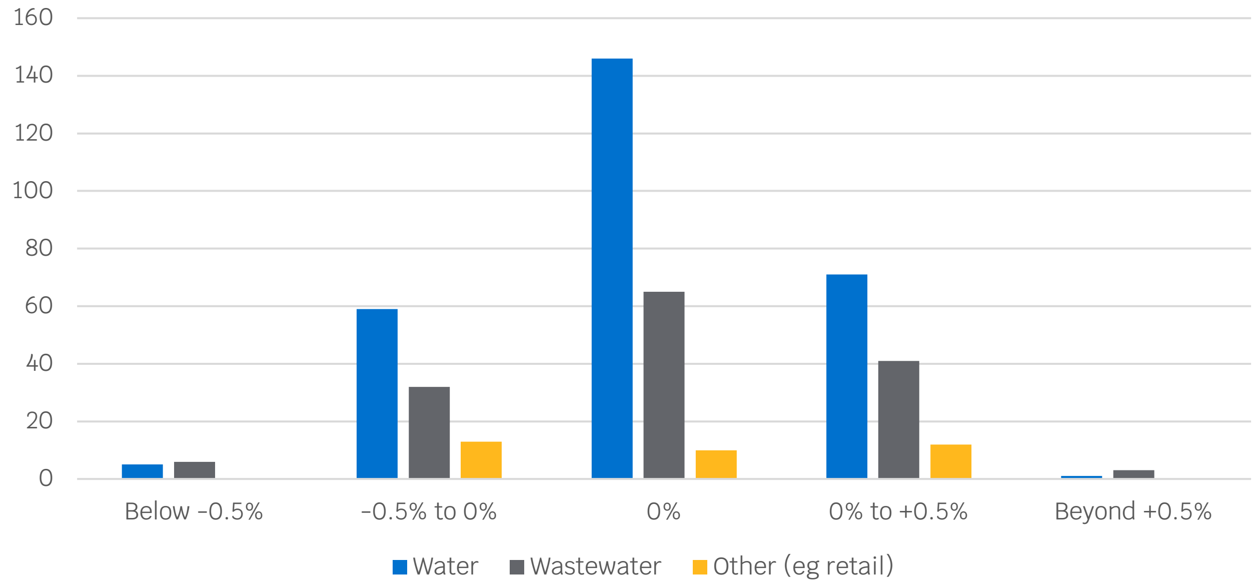
While we expect to set caps and collars on most bespoke performance commitments, we may not set collars on bespoke performance commitments that address poor performance in an area and are underperformance-only.

Where we decide to use them, we propose to **set the levels of caps and collars using a top-down approach** with reference to an expected return on regulatory equity (RoRE), rather than a range of probability estimates which can be complex to estimate in an objective manner. We may cross-check this against historical performance and overall risk ranges to ensure companies are adequately incentivised.

As a starting point, we propose that **caps and collars are set at levels equivalent to ±0.5% RoRE for individual performance commitments**. As figure 5.1 shows, only 15 performance commitments had ODI payments that were beyond ±0.5% RoRE either in terms of water RoRE, wastewater RoRE or appointee RoRE in 2020-21 (appointee RoRE primarily relates to payments associated with companies' retail price controls). Of those performance commitments that exceeded these proposed thresholds, we expect 13 to be common performance commitments at PR24, so they would not be subject to caps or collars under our proposed approach for PR24 If selected as bespoke performance commitments at PR24, the remaining two performance commitments – sewer blockages and lead pipes – would have been affected by caps or collars.

We consider this proposed approach strikes the right balance in terms of incentivising improved performance while protecting customers and companies from excessive payments with minimal complexity.

Figure 5.1 – Number of performance commitments by payment range in 2020-21 (as a return on water, wastewater or appointee notional regulatory equity)



For the majority of performance commitments, we expect to set caps and collars **over a symmetric range, with an asymmetric range for performance commitments with clear diminishing marginal benefits**. As we set out in section 2.4, we consider this could be likely for asset health-related performance commitments, where there could be diminishing marginal benefits associated with very high outperformance. For individual asset health-related performance commitments, we are considering setting caps at +0.25% RoRE and collars at -0.5% RoRE. We estimate that this slightly strengthens incentives on asset health-related performance commitments compared to PR19.

While we could use historical performance distributions to set the levels of caps and collars, it adds complexity to undertake this analysis for individual performance commitments compared to our proposed approach based on expected RoRE, and can also underplay potential improvements in productivity over time. However, historical performance distributions can be a useful way to assess potential future performance (see section 5.3 on estimating ODI risk).

Aggregate sharing mechanism

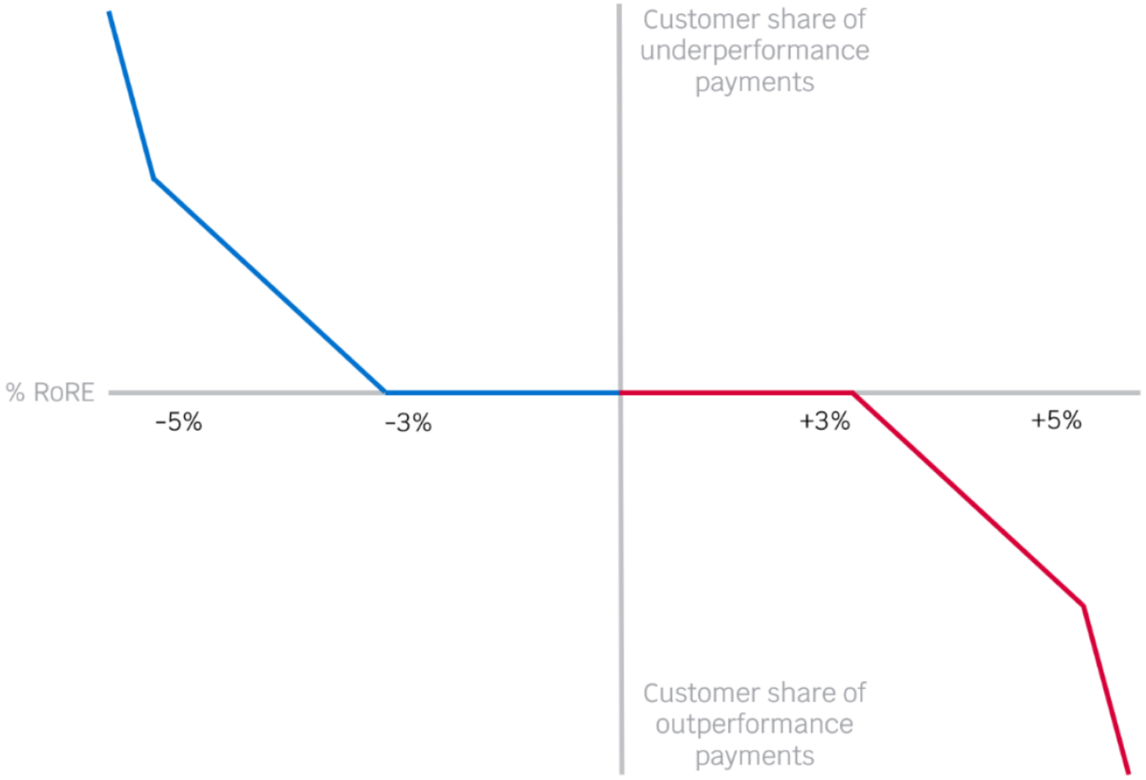
For PR24, we intend to manage ODI risk primarily at an aggregate level. We consider this is consistent with a more mature and robust framework, which gives us greater confidence in how we set performance commitment levels. As such, we propose to use an **aggregate sharing mechanism that shares net ODI payments between customers and companies** once they reach certain thresholds each year. This acts as a form of protective backstop to reduce (but not remove) the financial impacts of very high or very low performance. Our proposed approach extends the outperformance-only sharing mechanism for all companies (and is similar to Hafren Dyfrdwy's unique two-sided sharing mechanism) as at PR19.

Our proposed aggregate sharing mechanism has the following key design features:

- **two-sided protections** – this provides protections to both customers and companies from very high outperformance or very high underperformance payments, and aligns with our proposal to remove caps and collars on individual performance commitments;
- **primary and secondary thresholds** – unlike the PR19 mechanism, we propose to provide stronger protections beyond a secondary threshold – we consider this strikes a balance between both 'hard' aggregate caps or collars and unlimited exposure at less protective sharing rates, to ensure there remains some incentive on companies to manage the impacts of very high or very low performance;
- **apply on a net basis** – we propose that the sharing mechanism comes into effect once net ODI payments meet the relevant sharing thresholds – this simplifies our PR19 approach, which was set on a gross basis, and aligns with our proposal to set a two-sided mechanism that protects both customers and companies from excessive risk exposure, as well as our wider approach to communicating risk and return; and
- **apply separately for wholesale water and wastewater payments only** – this ensures there are no cross-subsidies between water and wastewater services, and that payments associated with the residential and business retail controls, including the measures of experience, are excluded because they already have their own maximum limits and are relative incentives, as at PR19.

We illustrate how this new mechanism would work in figure 5.2 below. As a starting point, we **propose that companies can earn or incur up to +3% or -3% RoRE without any sharing of payments**, beyond which payments are reduced by 50%. Beyond +5% and -5% RoRE, payments would instead be reduced by 90%. Currently, 3% RoRE equates to an average household bill impact of £19 per year (or nearly 6% of a household customer's average combined bill).

Figure 5.2 – Illustrative aggregate sharing mechanism



We invite views on appropriate levels for the aggregate sharing thresholds. We **propose ±3% for the primary sharing threshold.** This is consistent with our approach to the outperformance sharing mechanism at PR19. It also aligns with the outer band of the indicative range for ODIs applied at PR19 and which we intend to carry forward to PR24, suggesting companies will generally be exposed to the full financial consequences of their performance up to this threshold, and only shared in exceptional circumstances.

We **propose ±5% for the secondary 90% sharing threshold** because we consider it represents a possible but very unlikely level of net ODI payments. No company has reached this level over 2015-21. It would therefore retain powerful performance incentives on companies without introducing unacceptable levels of risk, while customers would not pay more than around 10% of an average bill in outperformance payments.

Where we have material concerns with the overall level or skew of risk faced by a company, we expect to **use the aggregate sharing thresholds as our primary tool for managing risk**, before considering other targeted interventions. This means that the aggregate sharing thresholds may vary by company, based on analytical evidence and representations during the determinations phase of PR24. During this process we would consider whether there are material differences between overall risk for water and wastewater services, and consider whether further adjustments are required.

5.2 Deadbands

5.2.1 Our February 2022 discussion document

Deadbands remove financial incentives for performance within a specific range around a performance commitment level.

For PR19, we did not set deadbands for almost all performance commitments, because we considered they substantially weaken incentives on companies, and reduce transparency around companies' performance. However, we did set deadbands for the common **statutory compliance performance commitments** (compliance risk index and discharge permit compliance).

- **Compliance risk index**: we set a deadband for all companies that reflected median industry performance.
- **Discharge permit compliance**: we set a deadband which aligned with the upper quartile of companies' forecast deadbands. It also aligned with the boundary between green and amber ratings under the existing guidance from the Environment Agency at the time. We set a wider deadband for Hafren Dyfrdwy, reflecting its relatively small size.

We did not cover this area in our February 2022 discussion document.

5.2.2 Stakeholders' views

In relation to deadbands for the compliance risk index:

- Affinity Water suggests retaining a deadband if the performance commitment level is set at full compliance; and
- Northumbrian Water proposes a deadband because it says this reflects that the measure is largely outside of company control.

In its response to our November 2021 consultation on performance commitments, the Environment Agency says that it does not support rewarding water companies for complying with their existing statutory requirements, such as discharge permit compliance, and supports not using deadbands at PR24.

5.2.3 Our assessment and draft methodology proposals

We are **proposing to not set deadbands for the majority of performance commitments**, which we consider retains incentives on companies to improve their performance.

For the **statutory compliance performance commitments**, we consider two options:

- **Option 1 – narrower deadbands**. This would reflect our expectation of gradual improvements over time and builds on our approach at PR19. We would base the level of the deadband on recent performance.
- **Option 2 – no deadbands**. This would align with our expectation that companies should be financially incentivised to meet their statutory compliance, with underperformance payments to customers where companies fall short.

We are **proposing to set no deadbands for the statutory compliance performance commitments at PR24**. While setting narrower deadbands on companies would still sharpen incentives, removing deadbands would lead to stronger incentives on companies and we consider would align with customer expectations on water companies. It also reflects that the compliance risk index is no longer a new metric, as at PR19.

We observe that some companies have achieved full compliance for discharge permit compliance, and very close to full compliance for the compliance risk index since 2017.[10] In 2020-21, nearly half of companies operated within their deadbands for the compliance risk index, while nearly three quarters of companies performed within their deadbands for discharge permit compliance. Both performance commitments have seen improvements since they were first introduced. This suggests that while full compliance can be achieved, which aligns with statutory requirements, there is also scope for improvement for some companies. We consider that removing deadbands should more strongly incentivise companies to meet their performance commitment levels.

In terms of impacts, based on PR19 underperformance rates, we estimate that removing deadbands would increase the financial exposure of companies by around 0.1% in water RoRE for the compliance risk index (or around £1m a year for each water company on average) and around 0.2% in wastewater RoRE for discharge permit compliance (or around £3m a year for each wastewater company on average).

[10] For the compliance risk index, frontier performance has been 99.99% in 2017 and 2018, 99.97% in 2019 and 99.98% in 2020. For discharge permit compliance, frontier performance has been 100% in 2018, 2019 and 2020.

5.3 Estimating ODI risk

5.3.1 Our February 2022 discussion document

In previous price reviews, we have estimated risk ranges relating to ODIs primarily to signal the amount of revenue at stake to companies and their investors. It has also helped us to understand whether the levels of risk in ODI packages are excessive or unduly skewed.

During PR19, we used companies' probability estimates, at both the level of their proposed performance commitments and at an aggregate level. Companies generally took different approaches to estimating risk, which were hard to compare and verify. We reviewed these estimates and adjusted them where necessary. We took an approximate approach to estimating and presenting aggregate risks, applying scaling factors to bottom-up estimates informed by what companies proposed in their business plans.

We did not cover this area in our February 2022 discussion document.

5.3.2 Stakeholders' views

We received no comments on this area in response to our February discussion document. We address any relevant comments from stakeholders relating to our December 2021 discussion document on risk and return in Appendix 10 – Aligning risk and return.

5.3.3 Our assessment and draft methodology proposals

For PR24, we want to improve how we model and estimate ODI risk. This includes adapting our approach to reflect more common and standardised performance commitments at PR24. We also need to consider how to aggregate ODI risks. For example, reasonable downside scenarios for individual performance commitments are very unlikely to happen at the same time. Simply adding up the financial impacts of these individual risks will significantly overemphasise the likelihood of these risks occurring at a company level, giving an inaccurate picture.

We want to ensure that any approach that we take is proportionate and practical to implement for us and companies. To this end, we commissioned PwC to review potential methodologies for estimating ODI risk at PR24 and publish its report on our website alongside the draft methodology. Within the report, PwC considers a range of options, with potential variants.

Taking this into account, we consider there are three broad options we could take to estimating ODI risk at PR24:

- **Option 1 – Light-touch approach**. Companies would not provide probability estimates in their business plans. Instead, we would estimate probable performance primarily based on historical performance and companies' forecast performance levels. We would take a proportionate approach to aggregating risks. For the purpose of estimating risk in their business plans, companies could assume potential returns of ±1% to ±3% of regulatory equity.
- **Option 2 – Refined PR19 approach** (PwC's methodology 2). We would provide guidance to companies to help them provide more comparable probability estimates for individual performance commitments, as well as consistent assumptions for how they should model aggregate risks in their business plans. We could provide some parameters based on our analysis of historical performance based on a range techniques.
- **Option 3 – Company-owned Monte Carlo analysis** (PwC's methodology 3). We would provide guidance and consistent assumptions ahead of business plan submissions, for companies to use when they model risks, including in aggregate, using Monte Carlo approaches in their business plans.

We welcome views on which approach we should take for PR24. Given greater data availability, and with the aim of streamlining the price review process, our **preference is to take a light-touch approach to estimating ODI risk at PR24**. Companies would still be able to undertake their own risk analysis in their business plans and could use the overall indicative range for ODI returns to inform their analysis.

6. Incentivising outcomes beyond PR24

6.1.1 Our February 2022 discussion document

In our May 2021 consultation on PR24 and beyond, we discussed providing more clarity about how we will conduct price reviews in the long term, while retaining the ability to adapt.

We said we were considering how the ODI framework could provide stronger incentives on companies to deliver long-term benefits. We said we could provide companies some indication of what incentive rates might be in future price control periods.

We did not cover this area in our February 2022 discussion document.

6.1.2 Stakeholders' views

In response to our February discussion document, Northumbrian Water and Thames Water propose indicative long-term performance commitment levels and incentive rates for key outcomes.

Anglian Water suggests that incentive rates align with companies' long-term delivery strategies.

Wessex Water notes that long-term certainty over performance commitments and incentive rates in the ODI framework could support its proposals around outcomes-based environmental regulation (OBER).

6.1.3 Our assessment and draft methodology proposals

We consider there are merits in providing long-term certainty about the outcomes framework, so that companies have the confidence to invest and explore new ways to deliver performance improvements over multiple price reviews.

We are **committed to maintaining the outcomes framework in future price reviews**. We expect the outcomes we are incentivising at PR24 to be of enduring interest to customers and the environment, and therefore we expect them to be financially incentivised in future price reviews. We expect future performance commitment levels, which drive future ODI payments, to be set using a sector benchmark which means top performers in the current period should continue to earn outperformance payments in future periods.

We have considered whether to provide greater certainty over incentive rates in future price control periods. This would reduce our flexibility to reflect changes in customer preferences over time. Companies should be clear that if they stretch themselves and perform better than others in future price control periods, they will gain outperformance payments. Conversely if they fall behind, they will pay underperformance payments. In general, therefore, we are not minded to provide greater certainty over incentive rates in PR29. However, we are open to proposals to provide greater clarity over our intended approach in PR29 where it can be demonstrated that this would clearly be in the interests of customers.

We **invite views on whether there would be benefits to customers in providing greater certainty over incentive rates at PR29 in some instances**. This includes in what cases there may be such benefits, how we should assess such requests, and whether this would only operate in one direction (ie allow specified rates to increase but not decrease between price control periods).

7. Implementing payments

In this section we consider:

- the **timing and form** of incentive payments;
- the **price control allocations** of incentive payments;
- **targeting incentive payments** to individual customers; and
- our **approach to reconciliation**.

7.1 Timing and form of incentives

7.1.1 Background

ODIs can either be paid shortly after companies report their annual performance, with payments applied to allowed revenues in one or more subsequent years during the period ('in-period') or at the next price review, with payments spread over multiple years in the following price control period ('end of period').

We expanded in-period adjustments to all companies at PR19, up from four companies during the 2015-20 period. We considered this significantly sharpens incentives on companies and benefits customers, as payments become closer in time to when customers receive the level of service. For the 2020-25 period, only 66 performance commitments out of 464 are set as end of period.[11] They are primarily bespoke scheme-specific performance commitments, which we are proposing are covered by PCDs at PR24.

In addition, ODI payments can be made through adjustments to revenue or the regulatory capital value (RCV). RCV adjustments can only be made at the next price review. RCV-linked payments are most suited for performance commitments with long-term benefits, particularly as it takes around 20 years for the full financial impact of an RCV adjustment to be applied. For PR19, only 6 performance commitments are paid through RCV adjustments – of which, only one is a common performance commitment.

[11] This excludes 17 performance commitments relating to per capita consumption, which we set as end of period for the reasons set out in our 2020-21 in-period determinations in November 2021.

7.1.2 Stakeholders' views

Affinity Water proposes spreading the effects of in-period adjustments over five years, with suitable discount rates, to deliver greater bill stability.

7.1.3 Our assessment and draft methodology proposals

We consider there are key benefits to retaining ODI payments as in-period revenue adjustments. While it is relatively early in the 2020-25 period, we have observed a greater focus on company performance, driven by stakeholder attention around the annual determination process and related publicity. While there is greater complexity than applying adjustments at the end of the period, this should lead to improved outcomes for customers and the environment, as companies focus more on their performance.

We also consider annual adjustments provide greater visibility within companies, especially at board level, whereas end-of-period adjustments are more easily obscured by other reconciliation adjustments.

We propose to **apply all ODI payments annually through in-period revenue adjustments**. While there may be benefits to linking some ODI payments to RCV adjustments, for example where the benefits are delivered over the long term such that today's customers may be paying for improvements that they are unlikely to receive, we consider many of our proposed set of common performance commitments are focused on current customer service and taking different approaches could add undue complexity.

We will only consider end-of-period payments for bespoke performance commitments where a company can demonstrate that the impacts on customers are expected to be realised over multiple price control periods, and that it does not significantly reduce management focus on these service areas or add disproportionate complexity.

In terms of spreading bill impacts of in-period revenue adjustments over five years, we consider this has a similar effect to end of period adjustments and risks obscuring their financial impacts and therefore dulling incentives on companies. We are consulting on our approach to company requests for revenue deferrals during the in-period determination process to help manage bill impacts (see section 7.4).

7.2 Price control allocations of incentive payments

7.2.1 Background

Because we set separate price controls in our price reviews, we need to allocate incentive payments between a company's price controls. This can be based on the activity or impact of the outcome that is being incentivised.

During PR19, we largely applied companies' proposed price control allocations during our determinations.

7.2.2 Stakeholders' views

We received no comments on this issue.

7.2.3 Our assessment and draft methodology proposals

Price control allocations were the same across companies for the majority of common performance commitments. However, where they did differ, this led to large variations between companies for the same common performance commitment on some occasions. For example, some companies allocated incentive payments associated with per capita consumption to a combination of the water resources, water network plus and residential retail controls while others allocated them fully to a single control. In other cases, the proposed price control allocations were relatively small and unlikely to be materially significant and as such added unnecessary complexity.

For PR24, we consider there are benefits in standardising price control allocations across companies. This should lead to consistency between companies and help to simplify the price review process. As such, we **propose to set out price control allocations for common performance commitments in the PR24 final methodology**. Companies will be able to propose price control allocations for bespoke performance commitments.

7.3 Targeting incentive payments

7.3.1 Background

Currently, ODI payments adjust a company's total revenue allowances each year. Companies reflect this in their annual charging publications, which must comply with our charging rules.

As set out in a company's charging arrangements, customers as a whole generally experience the same bill impact as a result of ODI payments. This is consistent with our charging rules, which require charges to reflect costs rather than outcomes for individual or groups of customers.

7.3.2 Stakeholders' views

South East Water suggests that underperformance payments should be returned to the customers who are directly affected by service interruptions, rather than reducing all customers' bills.

7.3.3 Our assessment and draft methodology proposals

We note that currently ODI payments do not directly compensate individual customers for service failures, and that there are other mechanisms that can help to compensate individual customers, such as the guaranteed standards scheme.

ODI payments adjust a company's total revenue allowance, and therefore the bills of all of its customers, to reflect the delivery of outcomes below what customers as a whole have paid for. This can be seen to reflect the change in risks averaged across all customers from a change in performance.

We are **not proposing to consider whether payments should be targeted to individual customers through the price review process**. We are exploring what could and should be done in this area outside of the price review, including through charging rules. We note that companies could compensate affected customers over and above existing mechanisms. Companies would need to ensure any targeted payments comply with their legal and regulatory obligations, including their licences and our charging rules.

7.4 Approach to reconciling incentive payments

7.4.1 Background

As set out in the PR19 reconciliation rulebook, we make adjustments to ODI payments to account for inflation, taxation and the time value of money.

Companies can also request abatements or deferrals under certain circumstances.

7.4.2 Stakeholders' views

We received no comments on the approach to reconciliation.

7.4.3 Our assessment and draft methodology proposals

We are **proposing to retain our overall approach to reconciliation**, which builds on our policy and modelling approaches in PR14 and PR19.

We are **proposing to continue to allow companies to request to defer the impact of ODI payments between years** to help manage affordability issues and cashflows. For PR19 we suggested ±1% RoRE at an appointee level for when we would consider allowing deferrals. We welcome views on whether we should set out similar criteria at PR24.

We are also **considering how we can streamline the overall in-period determinations process**, building on the more standardised approach to performance commitments and ODIs that we are proposing at PR24. This could include a 'lighter touch' approach, similar to how the revenue forecasting incentive (RFI) currently operates, where companies have ownership for operating the models and setting their charges in line with licence conditions, and we check this during the period and apply necessary adjustments at the following price review. This would need to be balanced by the need to protect customers and ensure incentives are properly applied.

Ofwat (The Water Services Regulation Authority) is a non-ministerial government department. We regulate the water sector in England and Wales.

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